Fluid Management®

Accutinter® 3200 Series Maintenance Manual

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CONFIDENTIAL

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INTRODUCTION

GENERAL

The Accutinter 3200 is a microprocessor-controlled colorant dispenser used for custom-blending of paint. This completely self contained unit is controlled by a built-in computer loaded with ColorPro software. The software is fully menu driven and is designed for ease of use. The software has an “on-line-help” utility that contains information found in the User Manual. Figure 1 shows an overall block diagram of the unit, indicating the interconnection of the various major components.

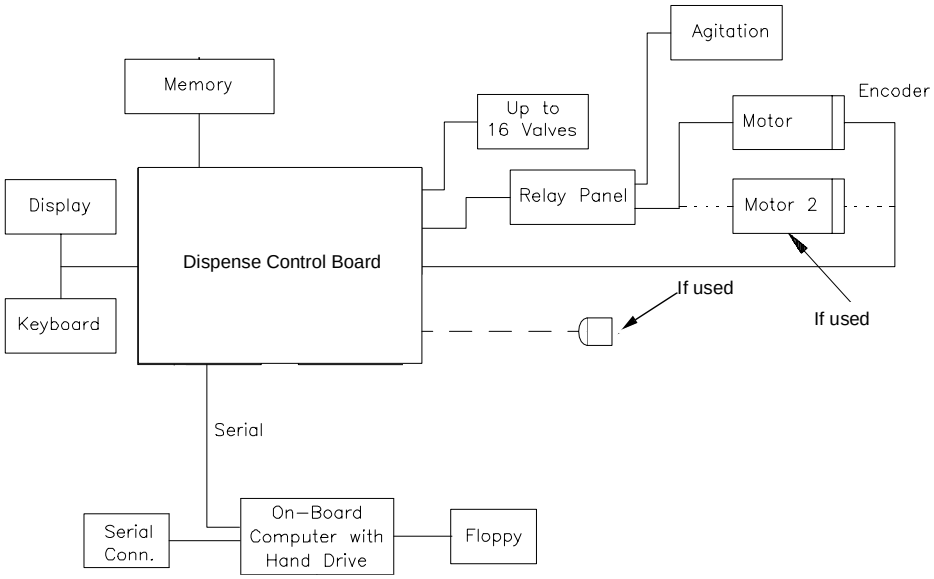


Figure 1. Overall Block Diagram

A DC motor (a second motor is optional) drives all the pumps simultaneously with a speed reducer and drive chain. An encoder wheel and magnetic hall-effect sensor provide a known number of electrical pulses per revolution of the motor. These pulses are counted by the dispense control board.

Figure 2 is a simplified block diagram of the tinting operation as observed in one colorant. The positive displacement pump delivers a fixed volume of colorant per revolution. From the pump output port the colorant is pushed to the input of a three-way solenoid valve. The valve diverts the colorant to one of two locations:

- External container.
- Back to the canister which holds the colorant.

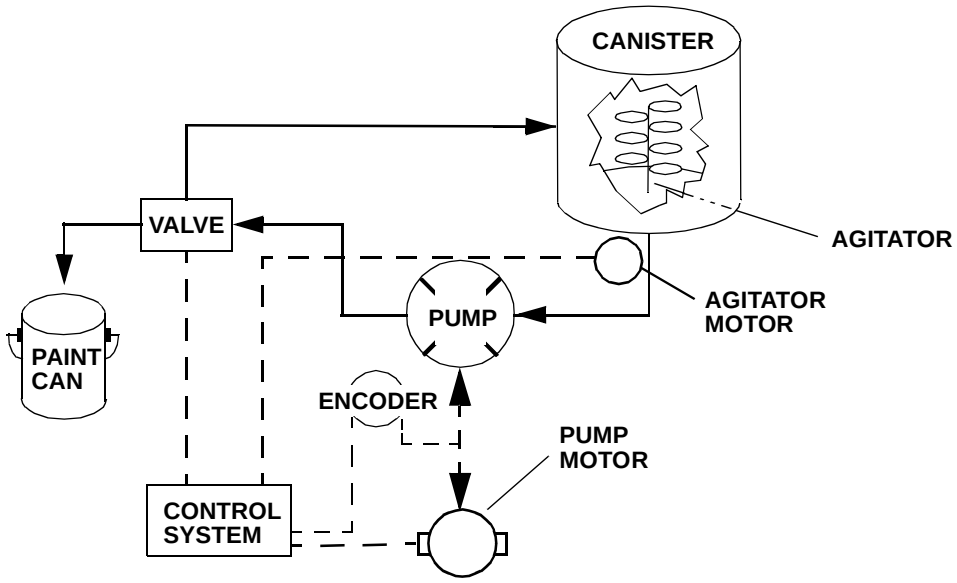


Figure 2. Block Diagram of Tinting Operation

The colorant in each canister is periodically agitated by a paddle assembly driven by a motor. These agitation motors, located on the bottom of the canisters, are powered by 115 VAC.

The entire system runs on 115 VAC. This incoming power is converted to:

- 5 volts DC for the electronics (microprocessor and circuit boards)
- 24 volts DC for solenoids and relays.

A constant-voltage transformer provides 19 volts AC which is converted to a low DC voltage. This power is used to run the pump motor at low speed for recirculation of colorants and low-speed dispenses. The pump is driven at high speed with 130 Volts DC. for high-speed dispensing.

The model 3200 Accutinter has a built-in computer that stores the formulas on a hard disk drive. The built-in computer has an externally accessible floppy drive located on the tight side of the machine.

SCOPE OF MANUAL

This manual provides instructions for installation and scheduled maintenance of the Accutinter. It is intended to be used by service technicians and operators. General knowledge of the operation of the Accutinter is practical when maintaining this equipment. Review the User Manual that came with the Accutinter or refer to the "on-line-help" utility before performing any service procedures on the equipment.

This manual is shipped with each Accutinter 3200 along with the following documentation:

- The Accutinter 3200 schematic.
- The Getting Started with ColorPro Manual. P/N 20936
- The Accutinter Service Guide. P/N 22763

This manual is to be used in conjunction with the other documentation that comes with the equipment.

HOW TO USE THIS MANUAL

The manual is organized into four (4) sections including this one. Each section is divided into sub-sections that cover a given Accutinter topic. The intent is to provide a basic reference work that can be used to address installation and maintenance issues.

SAFETY

The Accutinter line of precision colorant dispensers is a safe and effective collection of quality equipment. This equipment is designed to bring many years of operation. In order to avoid damage to the equipment or bodily injury, basic precautions and warnings must be observed. For the Accutinter line, these basic precautions and warnings are accompanied by special labels.

Warning Labels

There are a number of warning labels on the Accutinter dispenser. Read all of these labels. Keep the labels clean so they are easy to read. If the warning labels become damaged or unreadable, purchase new labels from Fluid Management. See the Parts List section of this manual for ordering information.

Safety Information in This Manual

Improper maintenance can shorten the life of this equipment. Performing procedures improperly can be hazardous and could result in serious injury or death. The precautions and procedures stated in this manual apply to installers and maintenance personnel. This manual must be read thoroughly before installing or maintaining this equipment. It should be kept near the machine for reference and periodically be reviewed by all personnel who work with the equipment. Some

actions involved in operation and maintenance of the machine can cause serious accidents if they are not performed in the manner described in this manual.

Proper precautions must be taken during the maintenance of this equipment. Carelessness and disregard for safety can result in damage to the equipment and injury or even death to the technician. This manual contains statements regarding safety precautions. The precautions are categorized as follows:

WARNING: The warning sign indicates that a high probability of serious injury or death exists if the hazard is not avoided. These safety messages describe precautions that must be taken to avoid the hazard.

CAUTION: A caution is used to signify that precautions must be taken to avoid actions that could damage the equipment.

NOTE: This word is used for information regarding the equipment that may be used by the service technician to make the procedure easier to perform.

This equipment uses AC and DC power to operate. AC power can cause injury and even death. Most of the procedures in this manual can and should be performed with the equipment disconnected from the power source.

WARNING: There are maintenance procedures detailed in this manual that are required to be performed with the equipment powered. Warnings regarding electrical shock hazards will accompany those procedures. All electrical shock warnings must be heeded to ensure that these maintenance procedures may be performed safely.

NOTES:

INSTALLATION

Record the Model Number and Serial Number on the parts section of this Manual. These numbers are located on the back panel of the Accutinter.

VERIFY SITE REQUIREMENTS

Before you begin the installation procedure, inspect the installation site and ensure that it meets all necessary requirements. If the equipment is installed in an inappropriate site, routine maintenance and service procedures may be difficult to perform.

SPACE REQUIREMENTS

Ensure that there will be ample space around the installed equipment. Some maintenance procedures require that service personnel have access to the rear of the equipment. If the equipment is placed against a wall, there must be sufficient room to move the Accutinter away from the wall. There must be ample room at the front of the equipment for the operator to move about. The assembled Accutinter is approximately 50 inches (127 cm) wide and 25 inches (64 cm) deep.

The Accutinter weighs approximately 1000 pounds (450 kg). Ensure that the floor at the operation site is level, and that it will easily be able to withstand the weight of the equipment.

AVAILABLE POWER

CAUTION: The use of non-dedicated AC electrical service to the Accutinter may result in improper operation and damage to the equipment.

The Accutinter requires 115 VAC at 20 Amps on a **dedicated line**. Ensure that the power supply is sufficient for the Accutinter and that it meets all national and local codes.

UNPACKING

A screwdriver and pair of scissors or diagonal cutters are required to unpack the Accutinter

REMOVE PROTECTIVE COVERING.

1. Remove plastic cover and nylon strapping from around the machine.
2. Remove plastic wrapping from the keyboard.
3. Remove cardboard protectors over the canisters.
4. Remove packing blocks from back of the machine and from under the canister covers.

REMOVE INTERIOR CONTENTS

Check contents against the packing slip. Contact Customer Service if items are missing.

The surge suppressor and User Manual are packed in a separate box.

PRE-INSTALLATION INSPECTION

CAUTION: The Accutinter weighs in excess of 1000 pounds (450 kg). Though it rolls on heavy-duty casters, maneuvering the Accutinter is a two-person job.

If the selected site meets all requirements, move the Accutinter to the site. Carefully inspect the equipment for dents and scratches that may have occurred during shipment. Report any damage to the carrier and Fluid Management before installing the Accutinter.

CONNECT TO POWER SOURCE

WARNING: Ensure that all covers are in place. Dangerous AC current exists in this equipment. Take all precautionary steps to avoid contact with AC power.

1. Plug the single plug surge protector that you received with the machine into a 20-amp dedicated line.

2. Plug the Accutinter and monitor into the surge protector.

INTERFACE CONNECTIONS

The Accutinter is equipped with a serial interface to connect the dispenser to additional external equipment such as a scale or spectrophotometer color matching system. Connect the peripherals equipment as follows:

1 Connect the serial port located on the left side of the Accutinter to the serial port on the peripherals.

2. Connect electrical power to the peripherals.

START UP

Once you have connected the Accutinter to AC power, the computer will boot-up and the display will show the ColorPro home page. If an error message appears or the PC does NOT come up running ColorPro, call 1-800-462-2466 for assistance. To prepare the Accutinter for everyday operation, refer to the software section of the Accutinter Service Guide.

Spectrophotometer Configuration

The model 3200 Accutinter is designed to use a spectrophotometer for color matching functions. The following steps represent the process by which the color matching system is configured in the Accutinter system:

1 With ColorPro running and the main menu open, press “F4” or click once on the “Setup” icon.

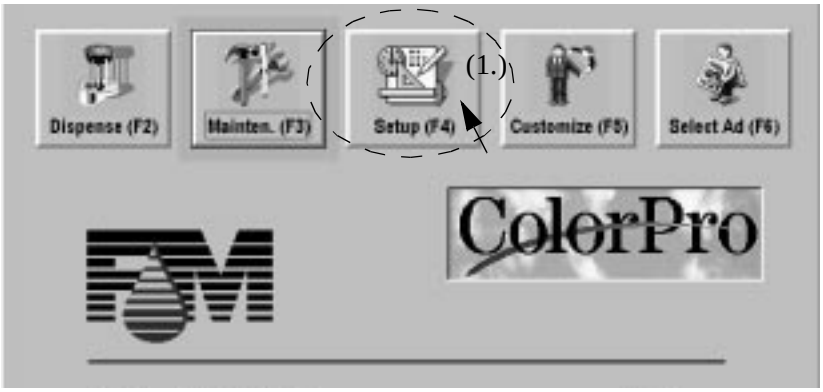


Figure 3. Selecting Setup Screen

2. From the next screen, select the “External Data” tab.

3. Select the appropriate color matching system and click on the “Add” button. Follow the prompts as required.

Scale Configuration

The model 3200 Accutinter is designed to use an external scale for color calibration. The scale configuration is done in FM Text.

PREPARING AND FILLING THE CANISTERS

Refer to “Canister Layout” in the User Manual before filling the canisters.

The Accutinter is shipped with a quantity of colorant in the canisters. Shake or stir (depending on what the manufacturer recommends for their colorant) enough colorant to fill each canister. Each small canister (orange plastic cover) holds six (6) quarts of colorant. Each large canister (red plastic cover) holds five (5) gallons of colorant. These canisters must be filled (nut not overfilled) to capacity for the Accutinter to operate properly.

1. Open the colorant compartments by raising the compartment top covers.

NOTE: Make sure that you fill all of the canisters to the “full level” just under the bottom of the deflector shield. If the colorant covers wire of the agitation blade, the canister is overfilled.

2. Pull the cap off each canister, one at a time, and fill with the appropriate colorant until the canister is filled. The “full level.”

3. Fill each of the remaining canisters with colorants.

4. Refer to “COLORANT LEVELS” in the User Manual and change all colorant levels to FULL.

NOTE: To ensure accurate results, you must allow the aeration in the colorant to escape. Allow to sit at least 12 hours before proceeding.

INITIAL DISPENSE

Determine if the Accutinter is operating by performing a purge.

1. Place a container under the dispense nozzle as shown below.

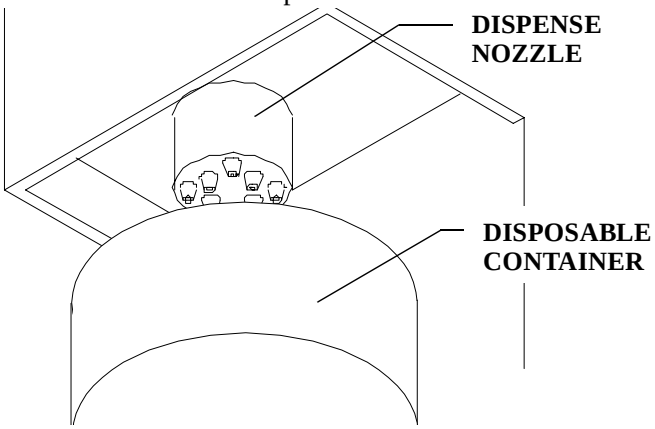


Figure 4. Dispense Test

2. Press “F3” or using the touch mouse, click once on the “Maintenance” icon. as shown in Figure 5.

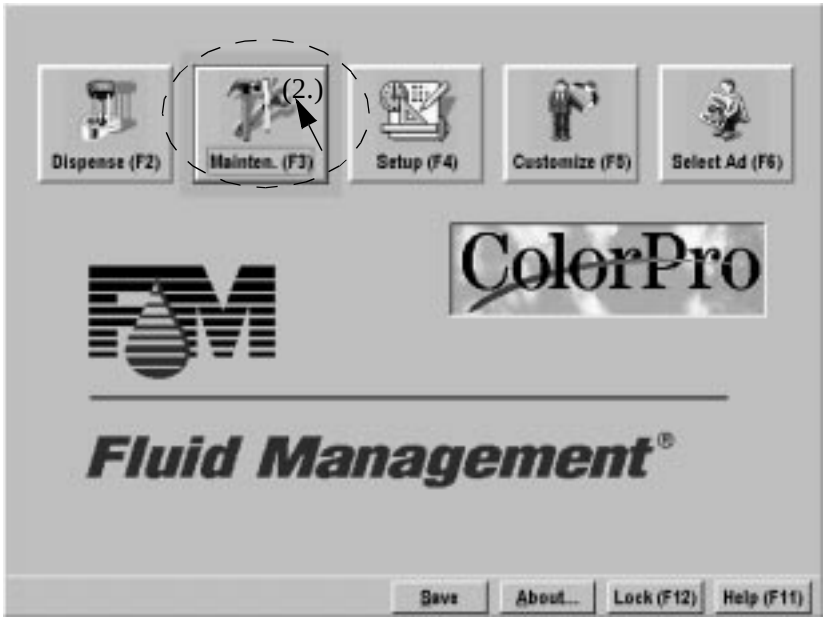


Figure 5. Selecting Maintains Screen

3. From the screen in Figure 6, press the “Ctrl” and “P” keys or click once on the “Purge” tab with the touch mouse. This will open a new screen.

4. Press the “Ctrl” and “A” keys or click once on the “All” button on the screen shown in Figure 6.

5. Press “F3” or click once on the “Purge” button on the screen.

Figure 6. Purge Screen

6. Check that each colorant comes out in a straight, steady stream. If the dispense is erratic, repeat these steps.

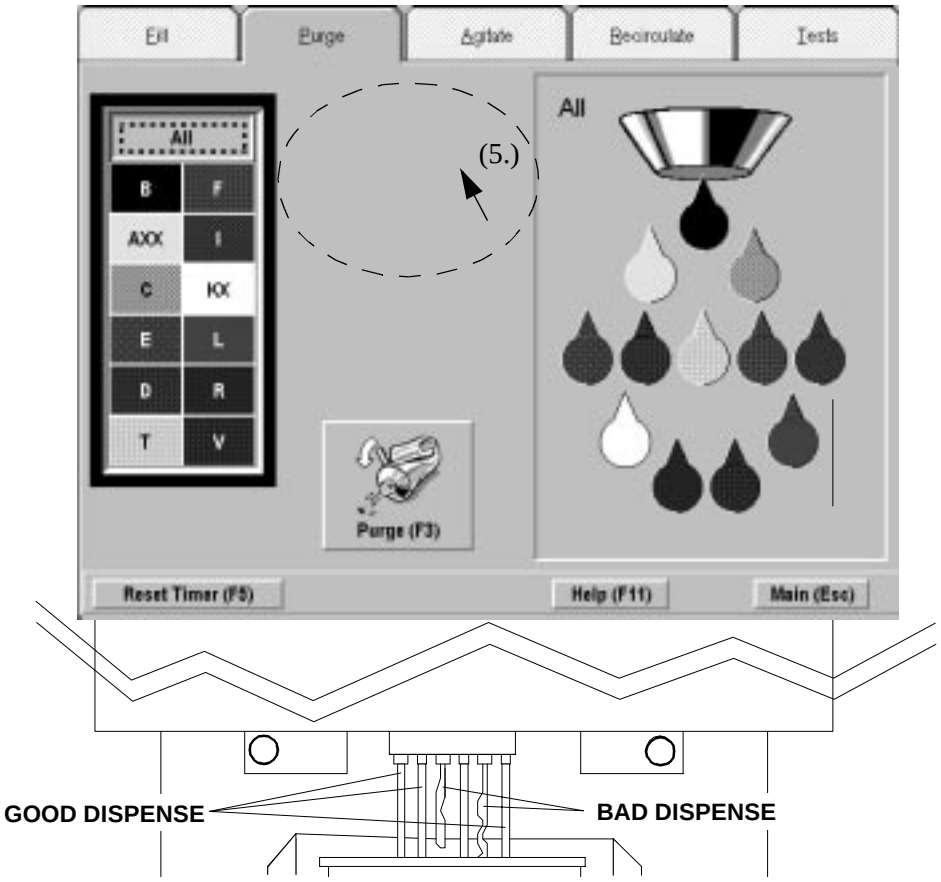


Figure 7. Dispense Quality Test

The Accutinter is ready to be put into operation. Refer to the “help screen” or the User Manual before initiating a dispense.

MAINTENANCE

GENERAL

This section of the manual provides information for routine maintenance of the Accutinter. The main focus is on cleaning, maintaining colorant levels and proper lubrication.

COVER REMOVAL/INSTALLATION

Many of the procedures in this section require the technician to remove and reinstall covers to gain access to components in the Accutinter. This section shows the location of the covers and explains how to remove and replace them.

The following illustration shows the three covers that are removed for many of the maintenance procedures.

The lower front cover exposes the dispenser motor, power supplies, and fuses. It also permits access to some of the canister agitation motors.

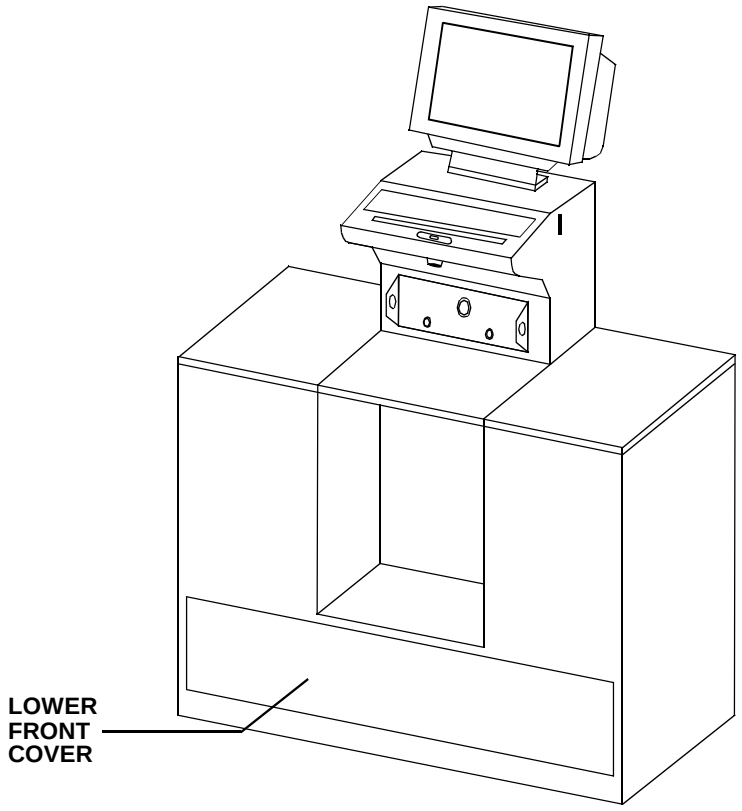


Figure 8. Lower Front Cover Location

The lower rear cover exposes the relay panel with fuses, valves, pumps, and remaining agitation motors.

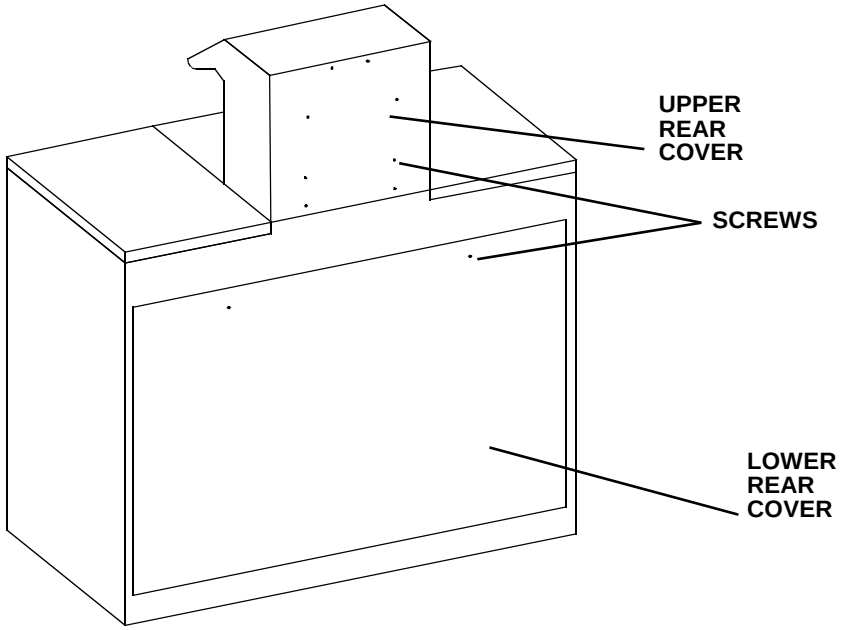


Figure 9. Upper and Lower Rear Cover Location

The upper rear cover permits access to the dispense control board and built-in computer.

All lower covers are secured with captive screws. The screws securing the upper rear cover are not captive. When removing the upper rear cover, retain the screws for reinstallation.

CLEANING

The long term and reliable operation of the Accutinter is largely dependent upon keeping the system clean. Spills on the surface of the Accutinter or Accutinter sensors should be wiped up as they occur.

This section addresses the procedures involved in cleaning and maintaining the cleanliness of the Accutinter and its components.

Pump Cleaning

Disassembly of pumps for cleaning is not recommended. The internal cleaning of pumps should only be done by flushing the entire system. To clean the pump, refer to the **Tubing Cleaning** section of this manual.

Tubing Cleaning

With the passage of time, tubing may need to be cleaned of coagulated colorant. It may not be necessary to remove tubing to do this. The following steps represent a method by which all of the components in the plumbing system can be cleaned. The intent is to “flush out” the system.

1 Find a clean container for each colorant in the system. These containers will be used to store the colorant for later reintroduction back into the system.

2. Dispense all of the colorant from one channel until all of the colorant is gone from the canister.

3. Repeat step number two (2) for each of the remaining channels.

4. Fill one (1) canister with hot tap water and recycle for five (5) minutes. A switch on the relay panel can be used recycle colorant. (See “Recirculation Switch Location” on page 31.)

5. Dispense water into a container and dispose in a manner consistent with local pollution control standards.

6. Repeat step numbers 4 and 5 until water runs nearly clear.

7. Repeat step numbers 4 through 6 for each channel.

8. Dispense all water from all channels. It may be helpful to brush the sides of the canisters to free material.

9. Pour the colorants that were removed in step numbers 2 and 3 back into the appropriate canisters.

10. Dispense colorant, until pure colorant comes from each channel.

11. Discard in a manner consistent with local pollution standards.

12. Test as appropriate.

Canister & Agitator Cleaning

The agitators and canisters can be cleaned in one of two (2) ways:

- Disassembly.
- System Flush.

Disassembly & Cleaning

1 Find a clean container for each colorant in the system. These containers will be used to store the colorant for later reintroduction back into the system.

2. Dispense all of the colorant from the channel until all of the colorant is gone from each canister.

3. Lift up and remove the agitation blade assembly.

4. Clean the agitation blade assembly thoroughly in soap and warm water.

5. Discard the water in a manner consistent with local pollution control standards.

6. Clean the canister (in place) thoroughly in soap and warm water.

7. Dispense all water from all channels

8. Pour the colorants that were removed in step 2 back into the appropriate canisters.

9. Purge each colorant, dispense one ounce of colorant from each channel and discard in a manner consistent with local solution standards.

10. Test as appropriate.

Nozzle Cleaning

The **Tubing Cleaning** process covered in this section should be used in an effort to clean the valves before the decision is made to replace the nozzle. the following steps represent the process by which a clogged nozzle can be cleared. If you are troubleshooting nozzle problems, you should try cleaning before considering replacement.

1 Using a paper clip or similar device, clear the nozzle channel being careful not to score any portion of the nozzle assembly. Do this to each channel that may be effected.

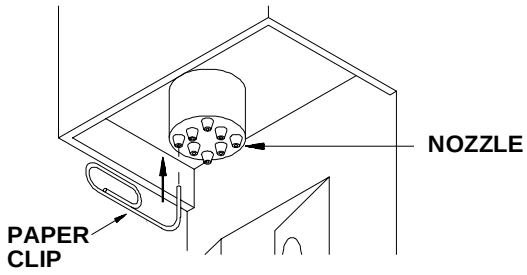


Figure 10. Nozzle Cleaning

2. Perform the purge operation observing the colorant streams. It may be necessary to repeat this procedure several times before the nozzle is clear. If this does not correct the problem, the nozzle assembly must be changed.

3. If the nozzle is clear, purge the system of air and perform appropriate tests.

Valve Cleaning

If valve problems persist, it may be necessary to disassemble the valve for cleaning. This section describes a through disassembly and cleaning of the valves. It also explains how the valve can be replaced with a new one. It is a major operation and should be preformed only if the valves have become inoperative. Valves may stop functioning if coagulated colorant prevents the parts from moving.

Valves Removal

1. Remove power by disconnecting power cord from power source.

2. Place an empty 32-ounce can under the dispense nozzle. Opening a line will cause colorant to drain.

3. Open the lower rear cover exposing the valves. Figure 11 on page 22 shows the location of the valves.

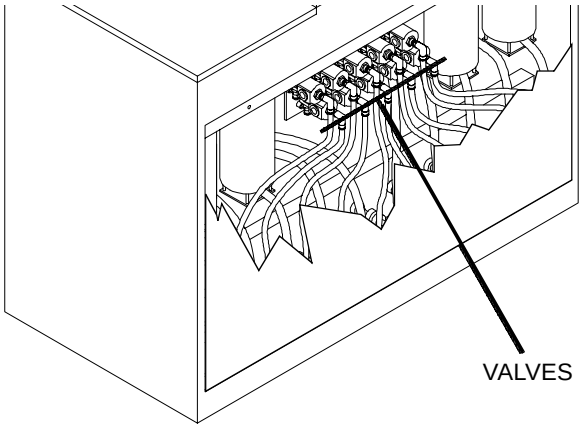


Figure 11. Location of Valves

4. Unplug the small power plug from the valve.

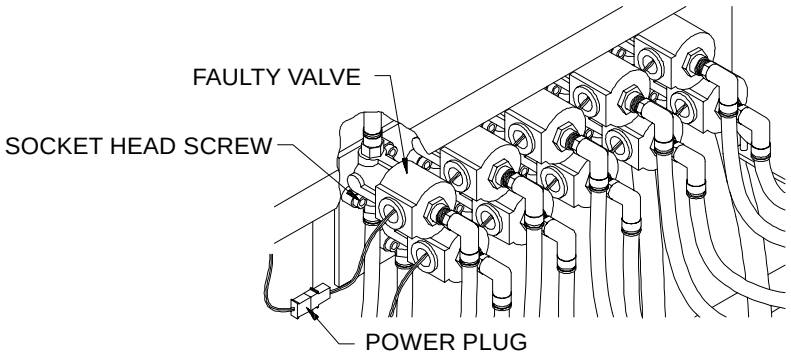


Figure 12. Unplugging Valve Power Connector

5. Using a 3/16″ ball-nose Allen wrench, remove the socket-head screws that hold the faulty valve to the valve bar. The hoses will hold the faulty valve in place.

NOTE: Some colorant will drain from the valve and hoses. Have small containers or paper towels handy.

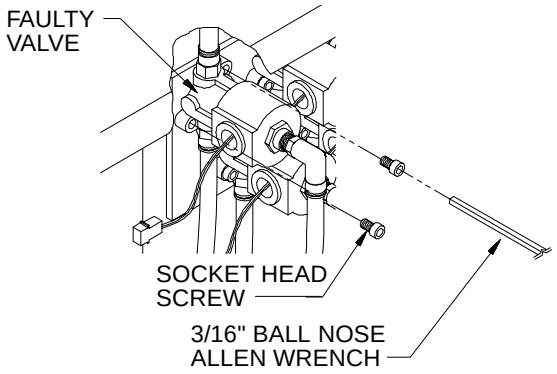


Figure 13. Removing the Valve

6. Using a flat-blade screw driver or 1/4″ nut driver, loosen the hose clamps on the three colorant lines. Move the clamps away from the valve.

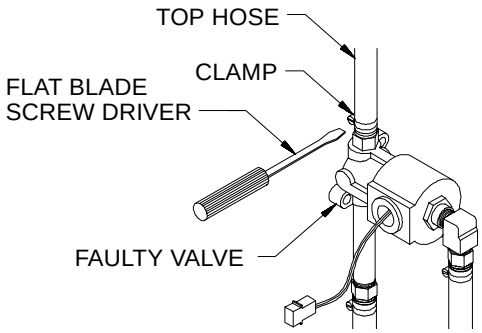


Figure 14. Removing Hose Clamp from Barbed Fitting

NOTE: If a heat gun is available, slowly heat the area around each barbed fitting. Applying heat to the hose at the fitting makes removal easier to perform.

7. Remove all three hoses from the valve.

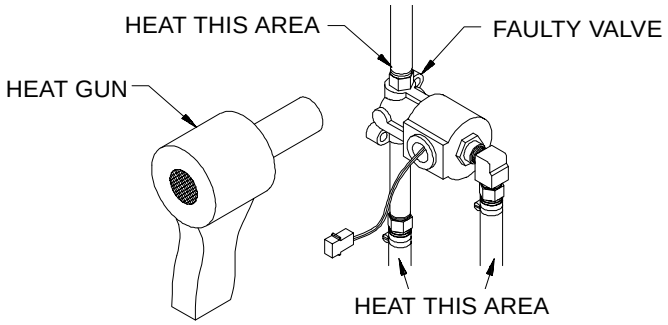


Figure 15. Heating the Barbed Fitting

NOTE: If you are cleaning or repairing the existing valve, proceed to the next section. If you are installing a new replacement valve, proceed to "Installing the New Valve."

Valves Disassembly

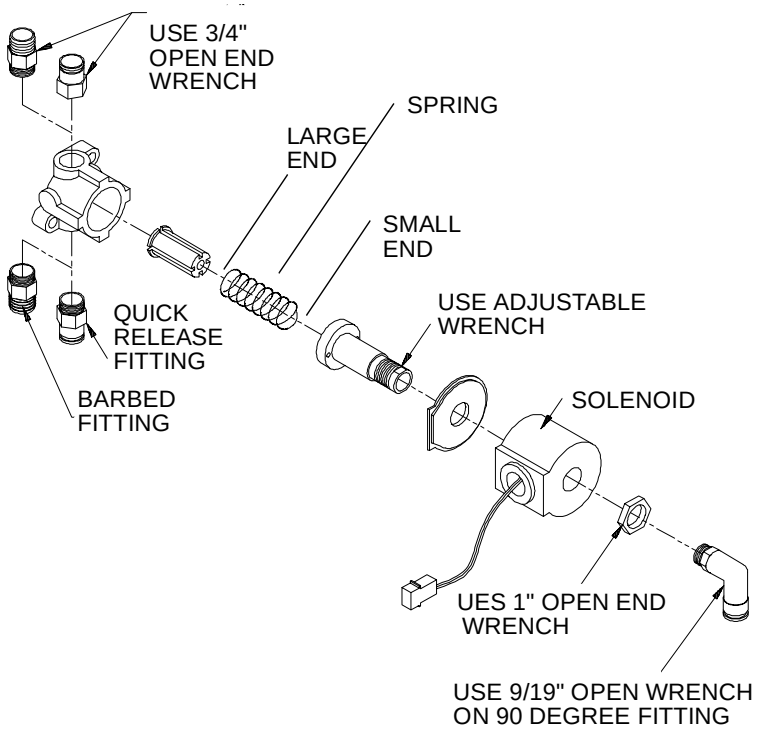


Figure 16. Exploded View of Valve

1. Remove the 90° fitting from the solenoid (coil). Turn the fitting counter-clockwise.

2. Remove the 1″ nut to release the solenoid from the neck of the valve.

NOTE: If a spanner wrench is not available, an adjustable wrench may be used: reinsert the 90° fitting and use the wrench on the two flats above the threads on the valve body.

3. Use a spanner wrench to remove the silver neck from the brass valve base. Grasp the valve at the base, but not the end. The two pieces inside the valve are a spring and a viton poppet assembly.

Valve Cleaning

1. Prepare a solution of soapy water.
2. Clean all parts thoroughly with the soapy water, using a small synthetic brush.
3. Be sure no debris is embedded in the viton seat of the poppet.
4. Check that there are no slices in the poppet, and no pieces missing.
5. Rinse all parts thoroughly with clear water.

Valve Reassembly

1. The parts should all be clean and dry.
2. Refer Figure 16 on page 24 to reassemble the valve.

Valve Insertion

CAUTION: Do not cross-thread the screws in the aluminum bar.

NOTE: When installing the valve, be sure that the words “IN” and “OUT” stamped on the brass valve body are placed in the proper direction. The side labeled “IN” should be coming from the pump and the side labeled “OUT” should be going to the dispense nozzle.

1. Install the valve on the valve bar and secure with the two socket-head screws.

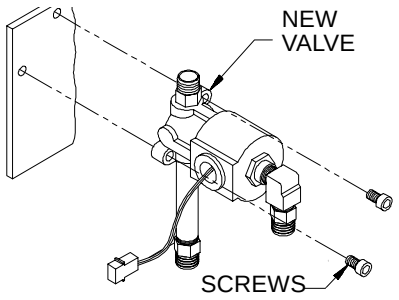


Figure 17. Installing Valve

2. Verify that the hose clamps are in place on the hose ends before pushing tubing in.
3. If a heat gun is available, heat the hose ends.
4. Push the hoses over the fittings.
5. Tighten the hose clamps.
6. Reconnect the power plug to the valve.

WARNING: Dangerous AC current exists in this equipment. Take all precautionary steps to avoid contact with AC power.

7. Restore power to the dispenser, and turn on the recirculation switch so that the pumps are turning at low speed. The recirculation switch is located on the relay panel.
8. Check for leaks around the valve fittings.
9. Turn the recirculation switch off.
10. Manually dispense approximately 5-10 ounces of colorant into a clean container to purge any air introduced into the system. Make sure that the colorant does not flow through the recirculation port.
11. Replace the lower rear cover.
12. Restore power to the Accutinter.
13. Test as appropriate.

LOADING COLORANT

NOTE: When filling the canisters with colorant, the recirculation deflector should never be covered. Open one colorant container at a time and pour immediately into the appropriate canister.

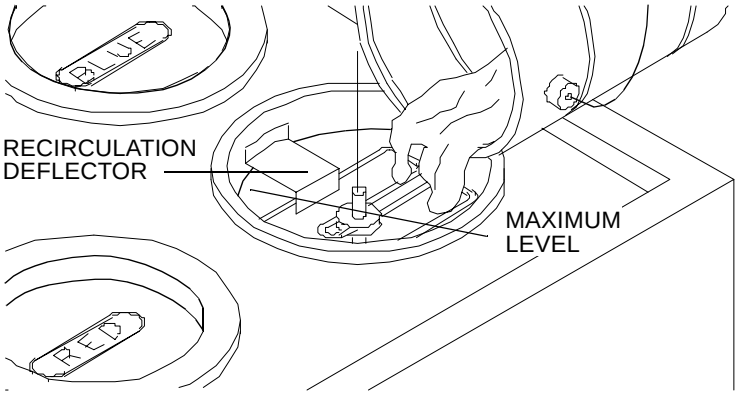


Figure 18. Filling Canisters

1. Remove the canister covers from each canister on the Accuitnter.
2. Open one container of colorant at a time.
3. Pour the colorants slowly into the appropriate canisters not exceeding the level defined by the recirculation deflector.
4. Update the colorPro software under the setup icon.

CAUTION: If the software is not properly updated, the Accutinter will not function properly.

LUBRICATION

Oil Level Check And Lubrication

The speed reducer connects the shaft of the dispenser motor to the drive chain and pumps. The speed reducer requires very little maintenance provided the oil level is properly maintained. The oil level should be checked periodically, and the level should be maintained if leakage occurs. The oil must be changed each time maintenance procedures are preformed that require gearbox disassembly.

Excessive noise or vibration during the recirculation cycle indicates low oil level or worn elements.

To check the oil level:

1. Disconnect power to the machine and remove the lower front cover.

2. Referring to the figure below, remove the oil-level plug located above the drive shaft.

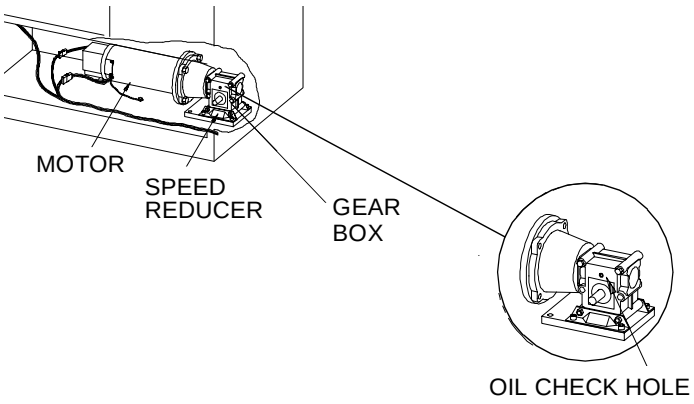


Figure 19. Inspecting Oil Level

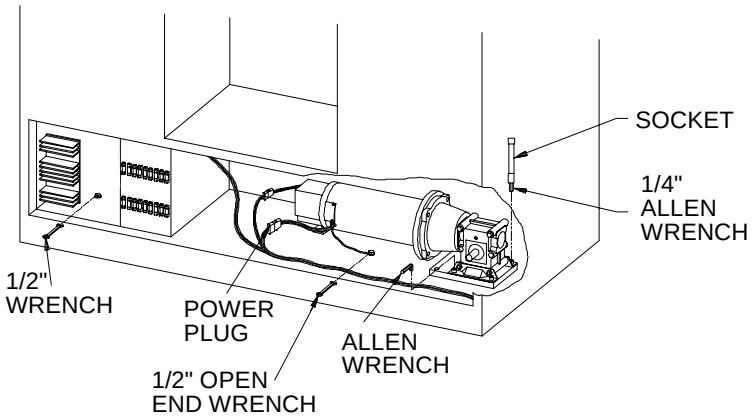
3. If oil does not seep out, the level is low, and should be topped up with one of the following lubricants:
   AGMA #8
   Amoco Cyl. Oil No. 680
   Cylasstic TK680
   Gulf Senate 680
   Mobil 600 W Super Cyl. Oil Hector 3000-S

4. Check for leaks at the housing bolts. Tighten bolts if necessary.

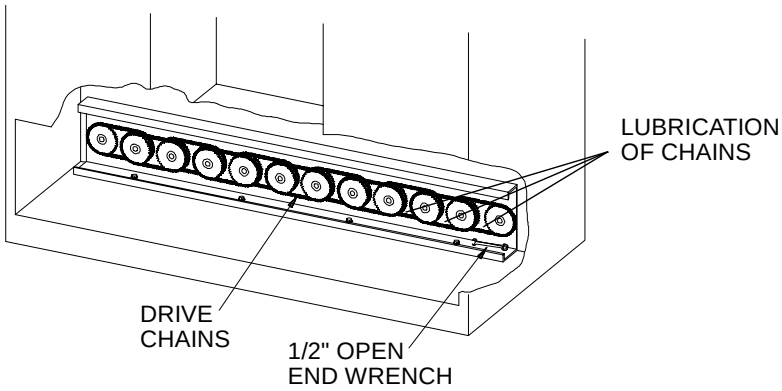
5. Replace the dispenser's covers, and restore power.

Chain Lubrication

Periodic lubrication of the drive chains is recommended to ensure smooth operation. If the chains are noisy or if they have not been lubricated in a year, perform the following procedure to lubricate the chains.



WITH MOTER, POWER BOX & FUSES



WITH MOTER, POWER BOX & FUSES REMOVED

Figure 20. Chain Lubrication

WARNING: Dangerous AC current exists in this equipment. Take all precautionary steps to avoid contact with AC power.

1. Remove the lower front cover and the lower rear cover from the dispenser.

WARNING: Keep hands and clothing clear of moving machine parts.

2. Locate the recirculation switch and place it in the ON position.

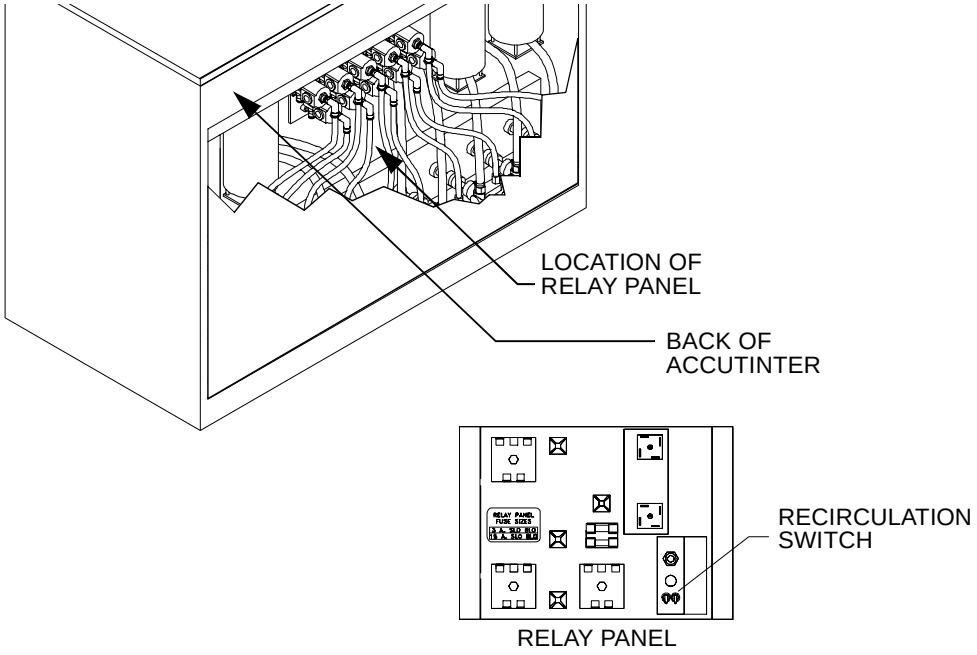


Figure 21. Recirculation Switch Location

3. As the motor and chains are turning at low speed, carefully spray a chain lubricant on the chains through at least one complete rotation of each chain.

4. It may be necessary to temporarily remove the power supply module to gain access to all the chains. The wires to the module are long enough to leave it plugged in, yet moved far enough away to provide access to the chain.

   a. Turn the recirculation switch off, and disconnect power from the dispenser.

   b. Use a 1/2″ open-end wrench to remove the power supply module.

WARNING: Dangerous AC current exists in this equipment. Take all precautionary steps to avoid contact with AC power.

WARNING: Keep hands and clothing clear of moving machine parts.

c. Restore power and turn the recirculation switch on.

d. Lubricate the remaining chains as specified in step 3.

e. Disconnect power, and secure the power supply module in place.

5. After lubrication, turn the recirculation switch on for a few seconds.

6. Turn the recirculation switch off, and replace the covers.

NOTES:

PARTS SECTION

This section is designed to assist you in

- Performing service functions

and

- Identifying parts.

All repairs must be performed by qualified service personnel.

TERMS: Unless prior arrangements have been made, parts will be shipped UPS-COD. All prices are F.O.B. Wheeling, Illinois, and are subject to change without notice.

In all correspondence or phone orders for parts, please state model number and serial number of the Miller Mixer.

Order less than $25.00 will be assessed a $5.00 handling charge.

RETURNS: No parts are to be returned without prior authorization. A Returned Goods Authorization number is required.

EQUIPMENT MAINTENANCE LOG

RECORD MODEL NUMBER HERE: _____

RECORD SERIAL NUMBER HERE: _____

SERVICE DATE	DESCRIPTION & PARTS REPLACED (STATE IF UNDER WARRANTY)	SERVICED BY

SPARE PARTS ORDER

Fluid Management Parts Order Form

Photocopy and use this form to

Mail or fax orders to:

Fluid Management*A unit of* **IDEX** **/ Phone: 1(800) 462-2466**
1023 South Wheeling Road | Fax: 1(847) 537-5530
Wheeling, IL 60090 |
|

Sold To: **Ship To:**

_____ _____
_____ _____
_____ _____
_____ _____

P.O. Number_____
PHONE # (___)___-____

Ship Via: _____ ❒**Collect** ❒**Prepaid**

❒**Taxable** ❒**Tax Exempt** **(Fax copy of exemption certificate.)**

QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		
	S		

Comments: _____
_____
_____

_____ _____ _____
Name *(Pease print)* Signature Date:

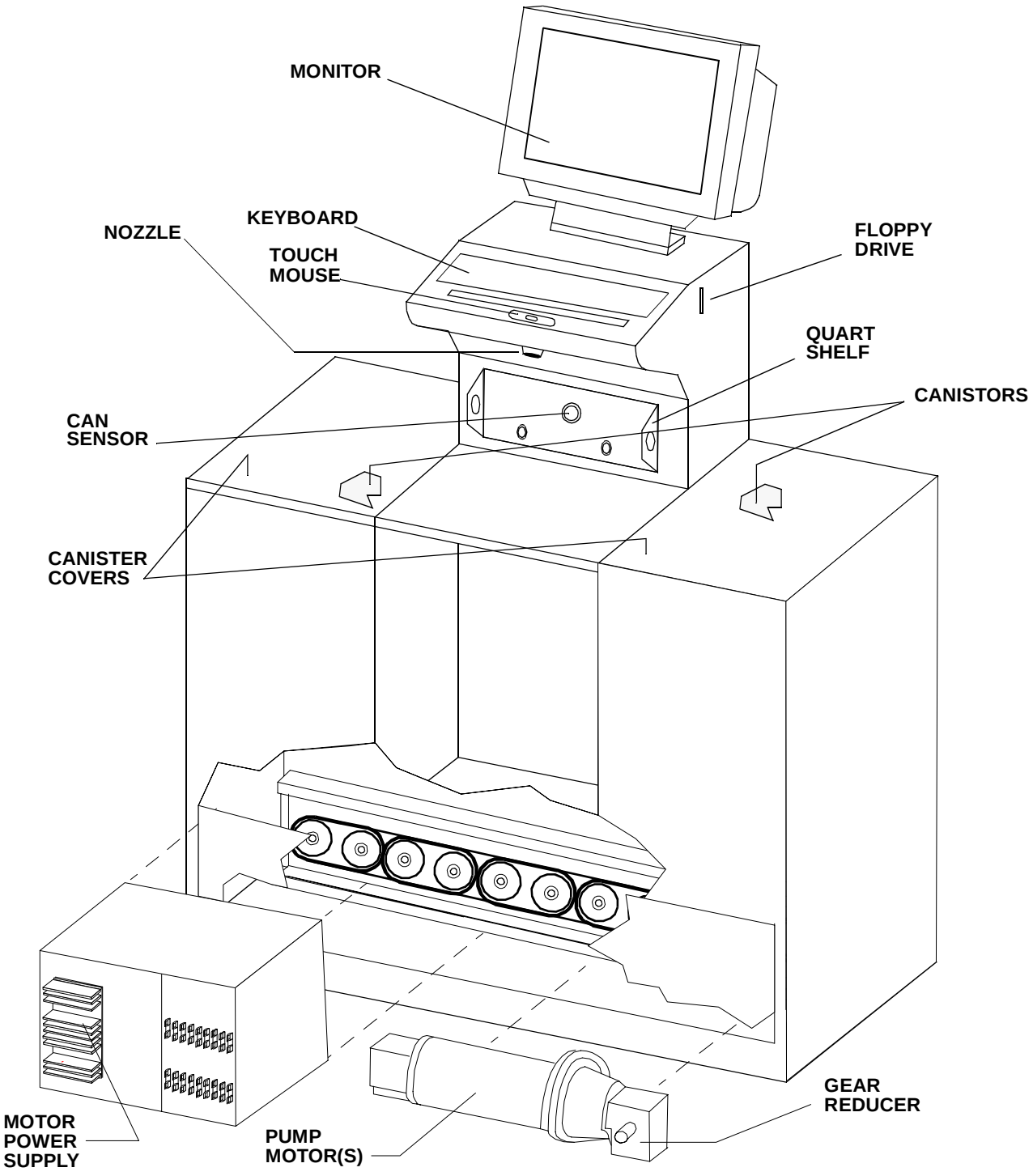


Figure 22 Location of Major Components Accessible From Front

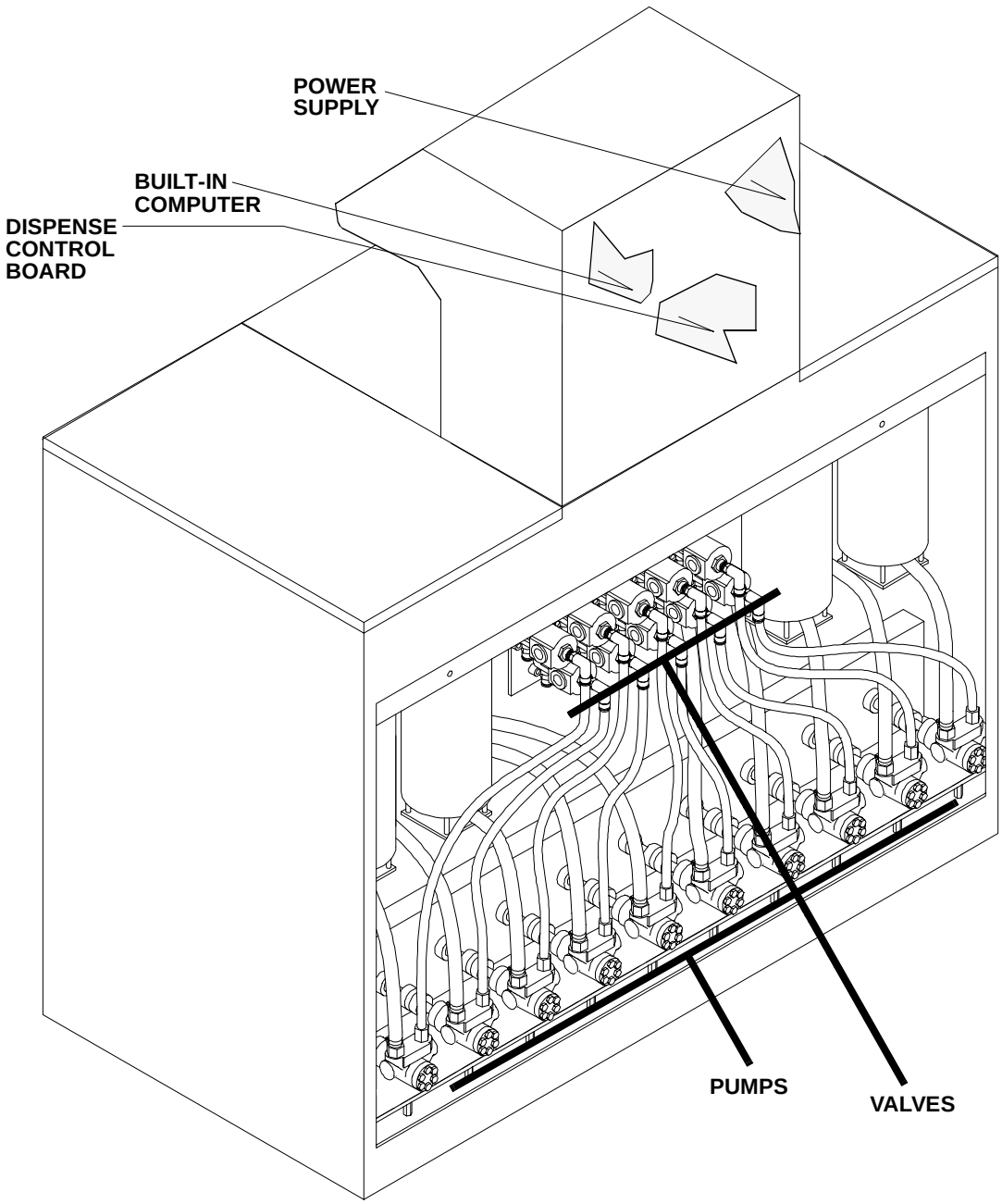
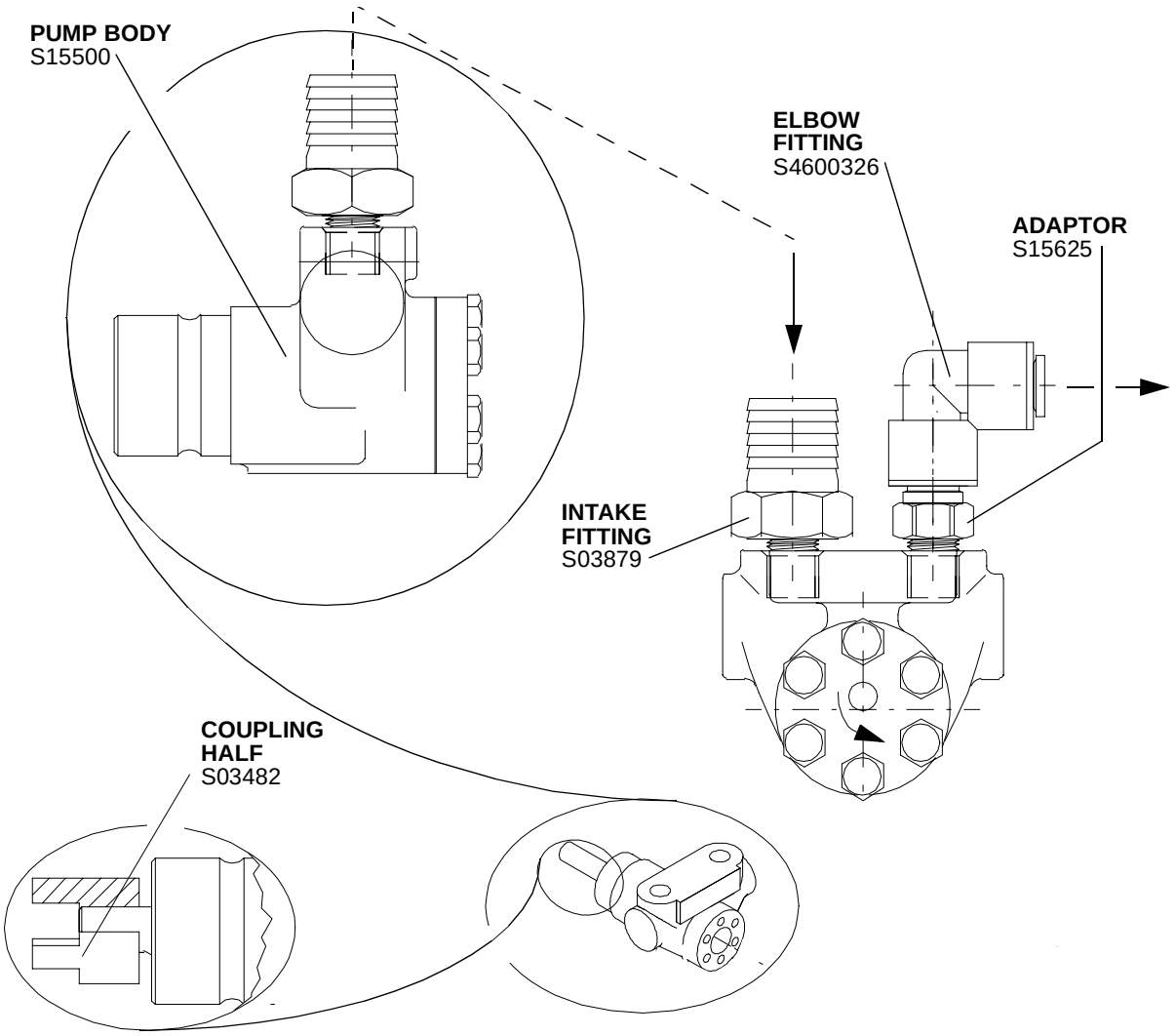
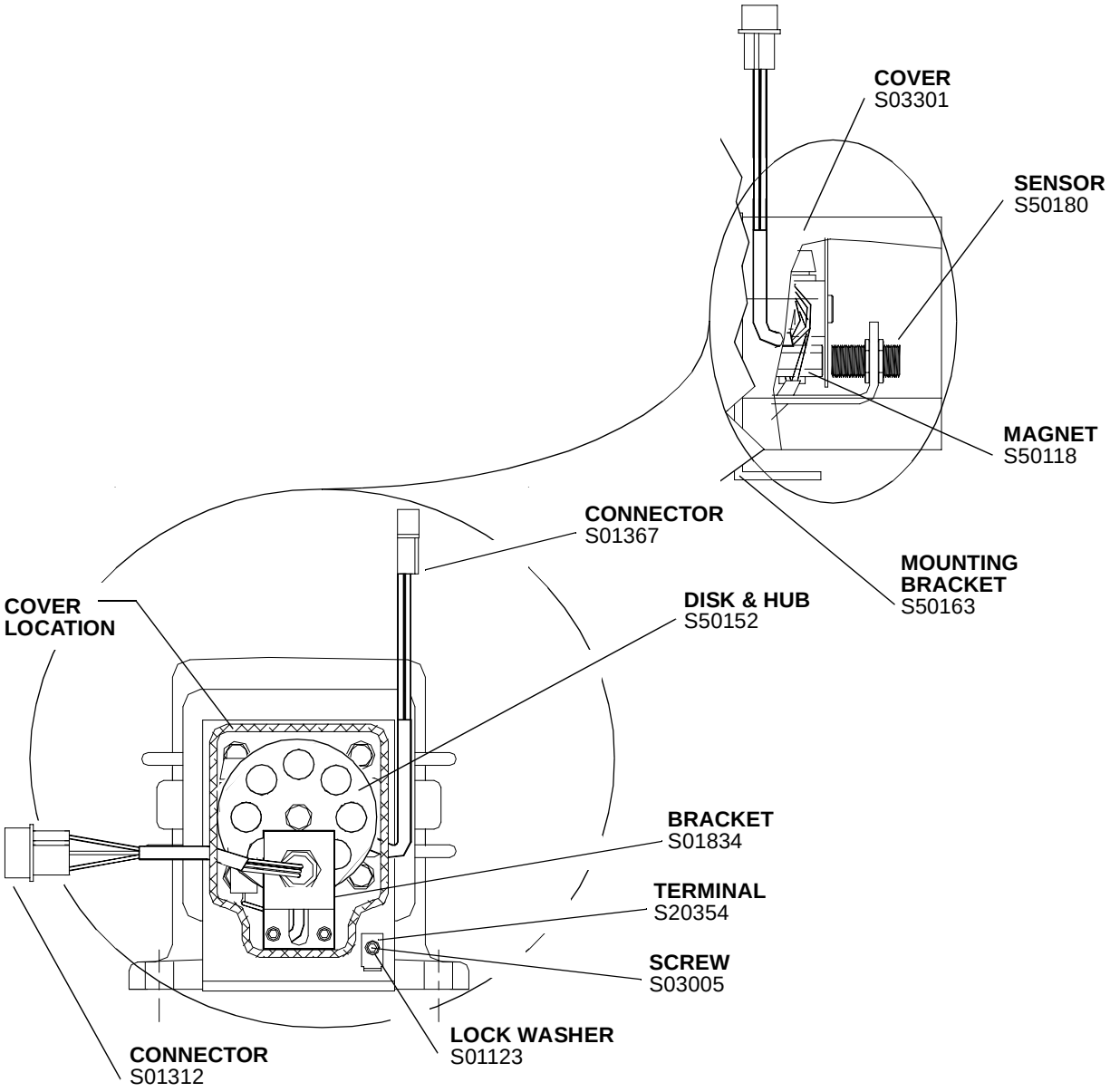


Figure 23 Location of Major Components Accessible From Back

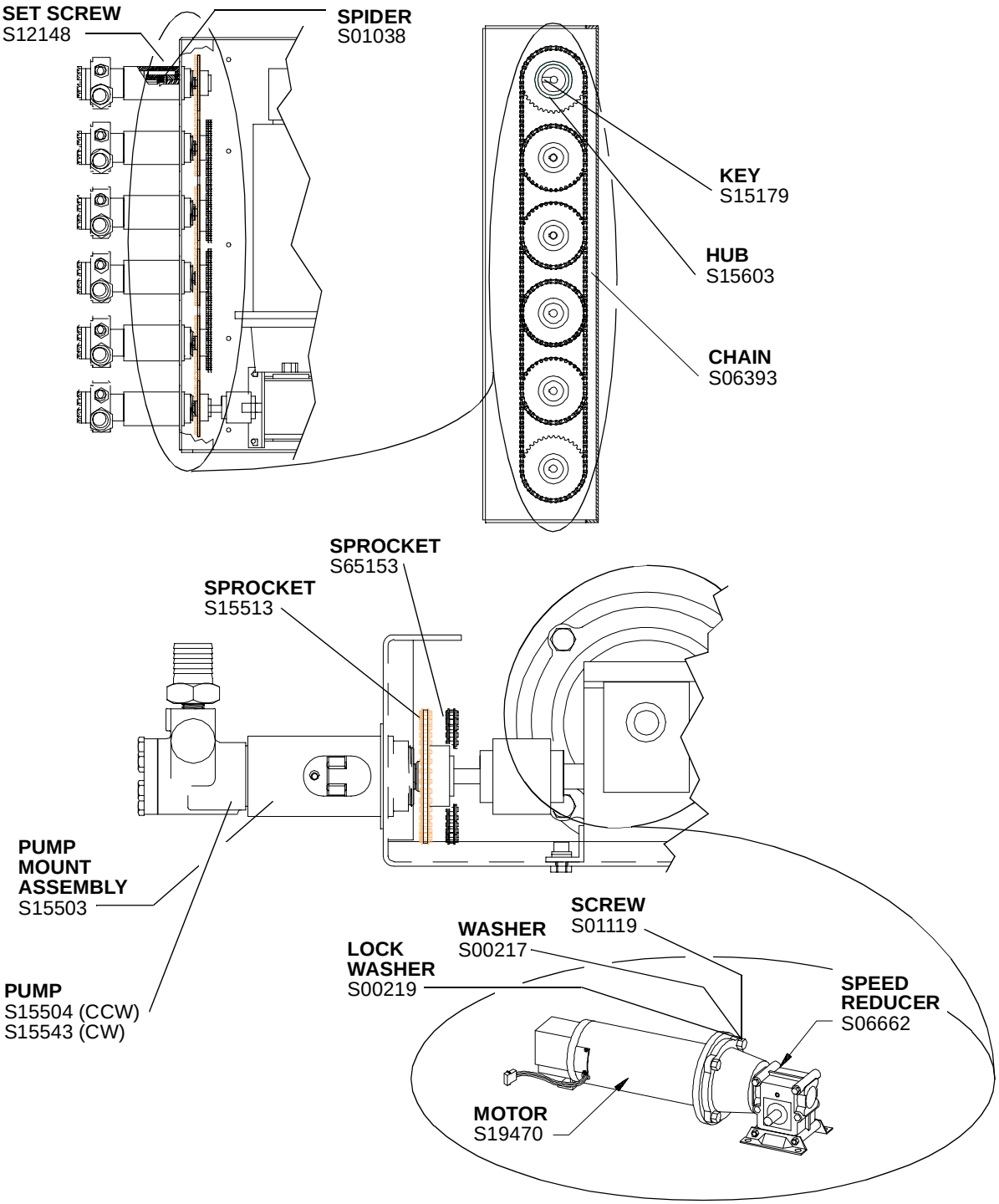
The remainder of this section illustrates the location of parts along with lists of part numbers.


PUMP BODY
S15500
ELBOW
FITTING
S4600326
ADAPTOR
S15625
INTAKE
FITTING
S03879
COUPLING
HALF
S03482

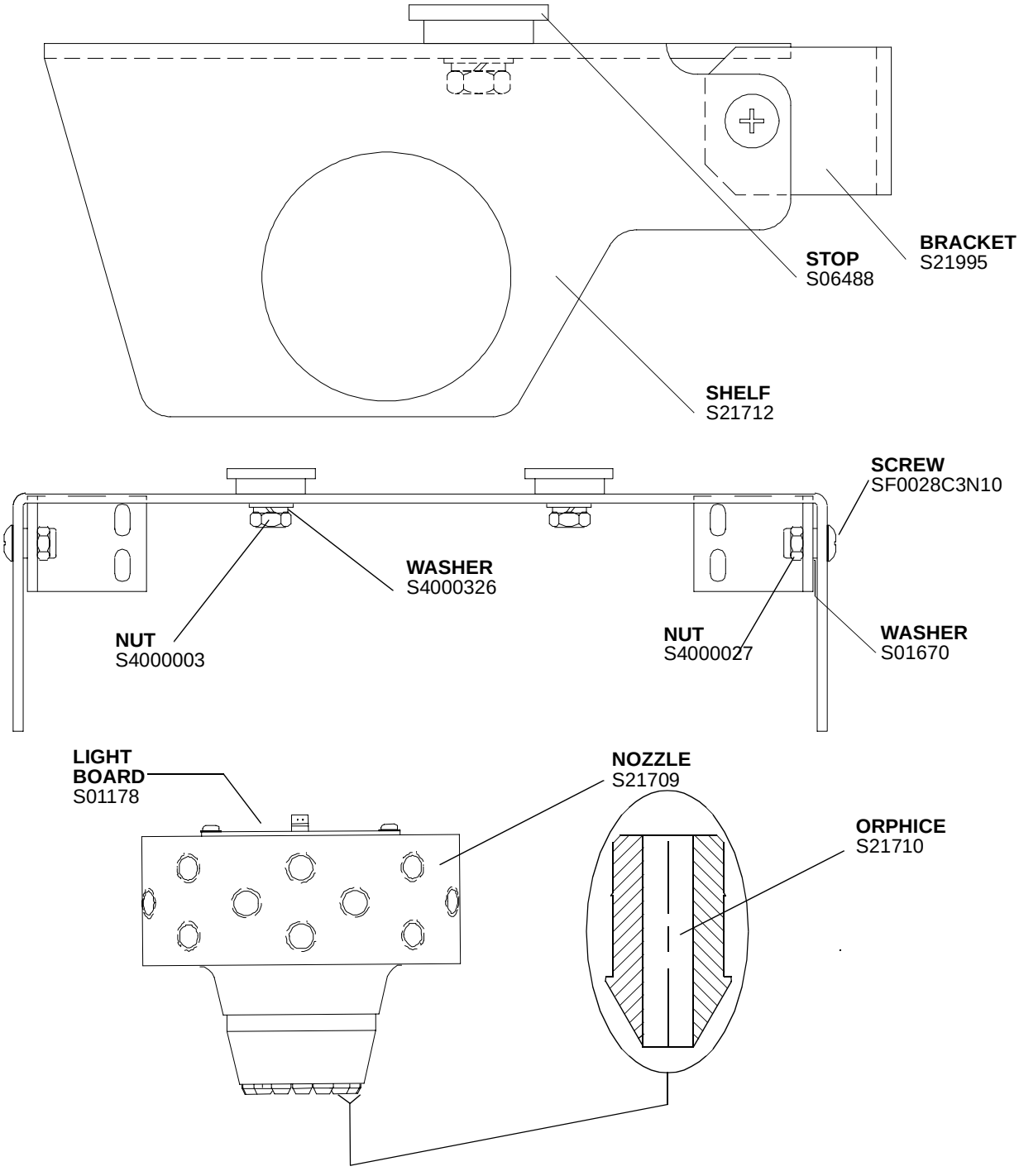
PART NO	DESCRIPTION	NO REQ
S03482	PUMP COUPLING HALF (2 PER PUMP)	A/R
S03879	PUMP INTAKE FITTING, 1” OD X 3/8” NPT (1 PER PUMP)	A/R
S15550	SLEEVE MOUNTED PUMP, 2GPM (1 PER COLORANT)	A/R
S15625	PUMP OUTPUT ADAPTOR (1 PER PUMP)	A/R
S19470	PUMP MOTOR (2ND MOTOR OPTIONAL)	1 (2)
S4600326	ELBOW FITTING (1 PER PUMP)	A/R


COVER
S03301
SENSOR
S50180
MAGNET
S50118
MOUNTING
BRACKET
S50163
CONNECTOR
S01367
COVER
LOCATION
DISK & HUB
S50152
BRACKET
S01834
TERMINAL
S20354
SCREW
S03005
LOCK WASHER
S01123
CONNECTOR
S01312

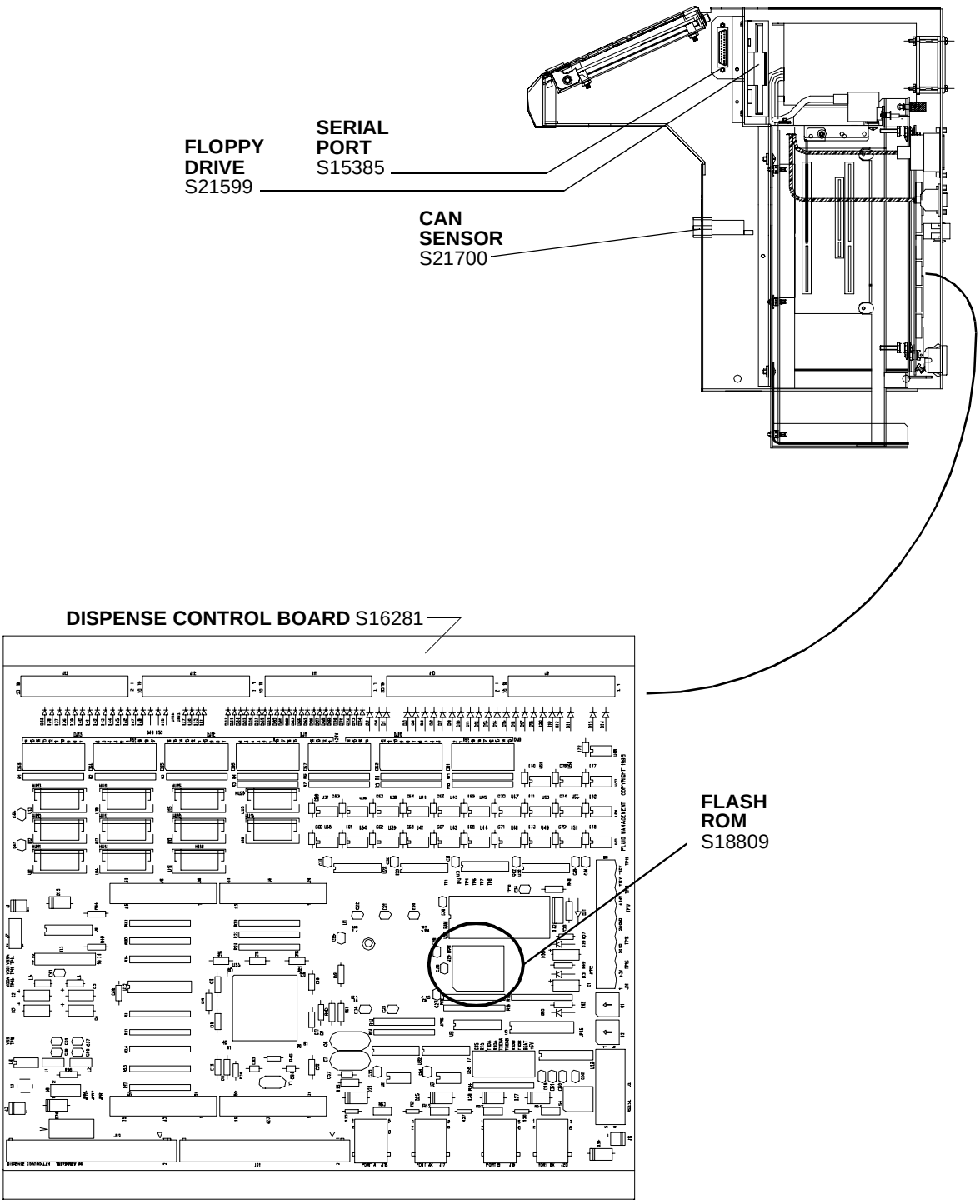
PART NO	DESCRIPTION	NO REQ
S01123	LOCK WASHER, #6 (1 PWE ENCODER)	A/R
S01312	ENCODER SENSOR CONNECTOR (1 PER ENCODER)	A/R
S03484	SPACER (1 PER MOTOR)	A/R
S03301	COVER (1 PER ENCODER)	A/R
S01367	ENCODER CONNECTOR (1 PER ENCODER)	A/R
S03005	SCREW, # 6-32 X 1/4” (1 PER ENCODER)	A/R
S01834	ENCODER SENSOR BRACKET (1 PER ENCODER)	A/R
S19470	PUMP MOTOR (2ND OPTIONAL)	A/R
S50118	ENCODER MAGNET (1 PER ENCODER)	A/R
S50163	ENCODER BRACKET (1 PER ENCODER)	A/R
S50180	ENCODER SENSOR (1 PER ENCODER)	A/R
S4100820	MOTOR BRUSHES 1 SET PER MOTOR)	A/R


SET SCREW
S12148
SPIDER
S01038
KEY
S15179
HUB
S15603
CHAIN
S06393
SPROCKET
S65153
SPROCKET
S15513
PUMP
MOUNT
ASSEMBLY
S15503
PUMP
S15504 (CCW)
S15543 (CW)
SCREW
S01119
WASHER
S00217
LOCK
WASHER
S00219
SPEED
REDUCER
S06662
MOTOR
S19470

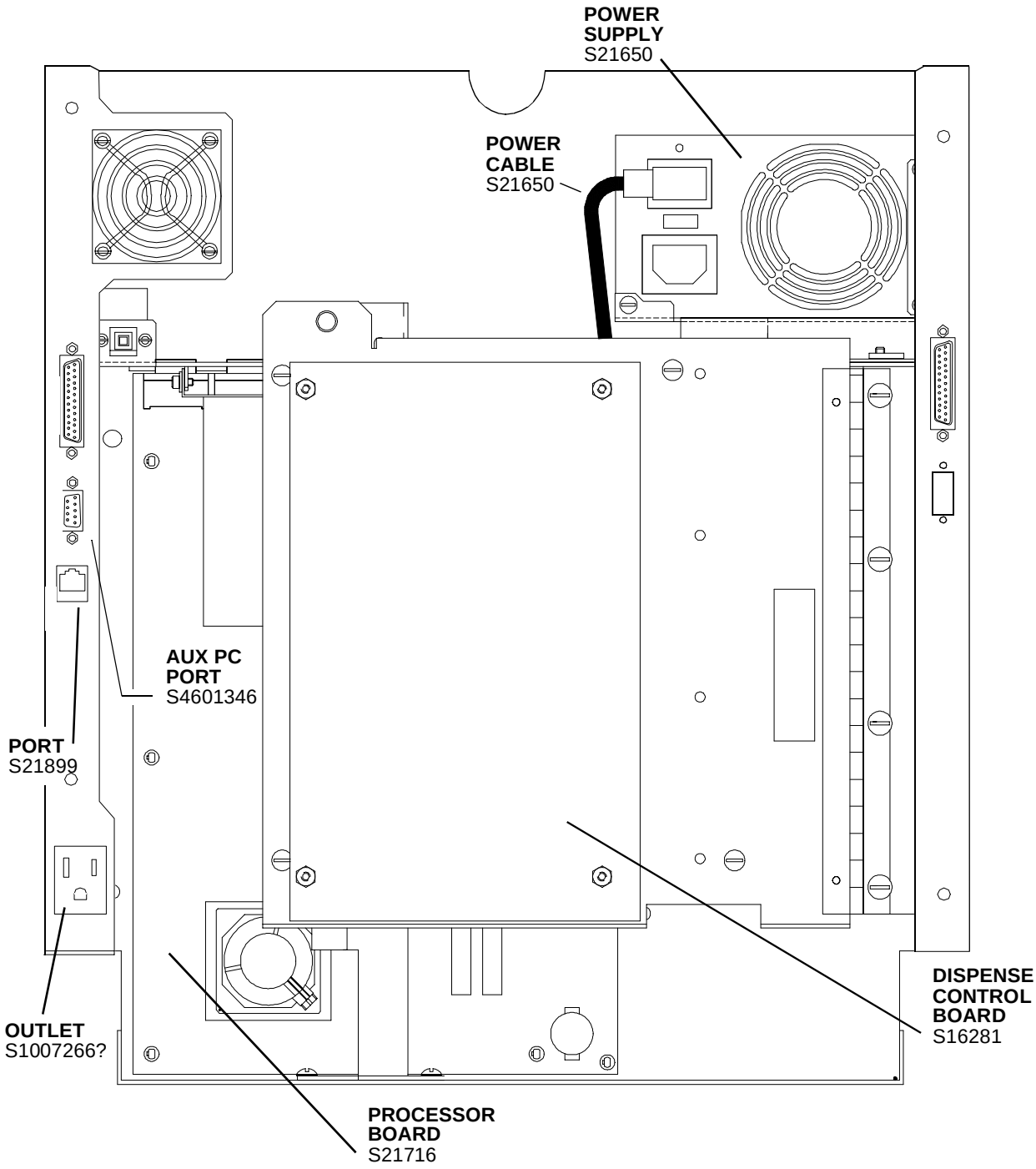
PART NO	DESCRIPTION	NO REQ
S00217	FLAT WASHER, 3/8”	4
S00219	LOCK WASHER, 3/8” SPLIT	4
S01038	COUPLING SPIDER (1 PER PUMP)	A/R
S01119	SCREW, 3/8-16 X 1 1/4”	4
S06393	CHAIN, 1/4” PITCH X 71 LINKS (1 ASSEMBLY PER PUMP, LESS 1)	A/R
S06662	SPEED REDUCER	A/R
S12148	SET SCREW, 1/4-20 X 5/16” (2 PER PUMP)	A/R
S15179	KEY, 3/16 X 1” (1 PER PUMP MOTOR)	1 (2)
S15503	PUMP MOUNTING ASSEMBLY (1 PER PUMP)	A/R
S15504	PUMP, CCW	A/R
S15513	WELDMENT SPROCKET WITH HUB (1 PER PUMP MOTOR)	A/R
S15543	PUMP, CW	A/R
S15603	COUPLING HUB (1 PER PUMP MOTOR)	A/R
S65153	WELDMENT SPROCKET (1 PER PUMP)	A/R


STOP
S06488
BRACKET
S21995
SHELF
S21712
SCREW
SF0028C3N10
WASHER
S4000326
NUT
S4000003
NUT
S4000027
WASHER
S01670
LIGHT
BOARD
S01178
NOZZLE
S21709
ORPHICE
S21710

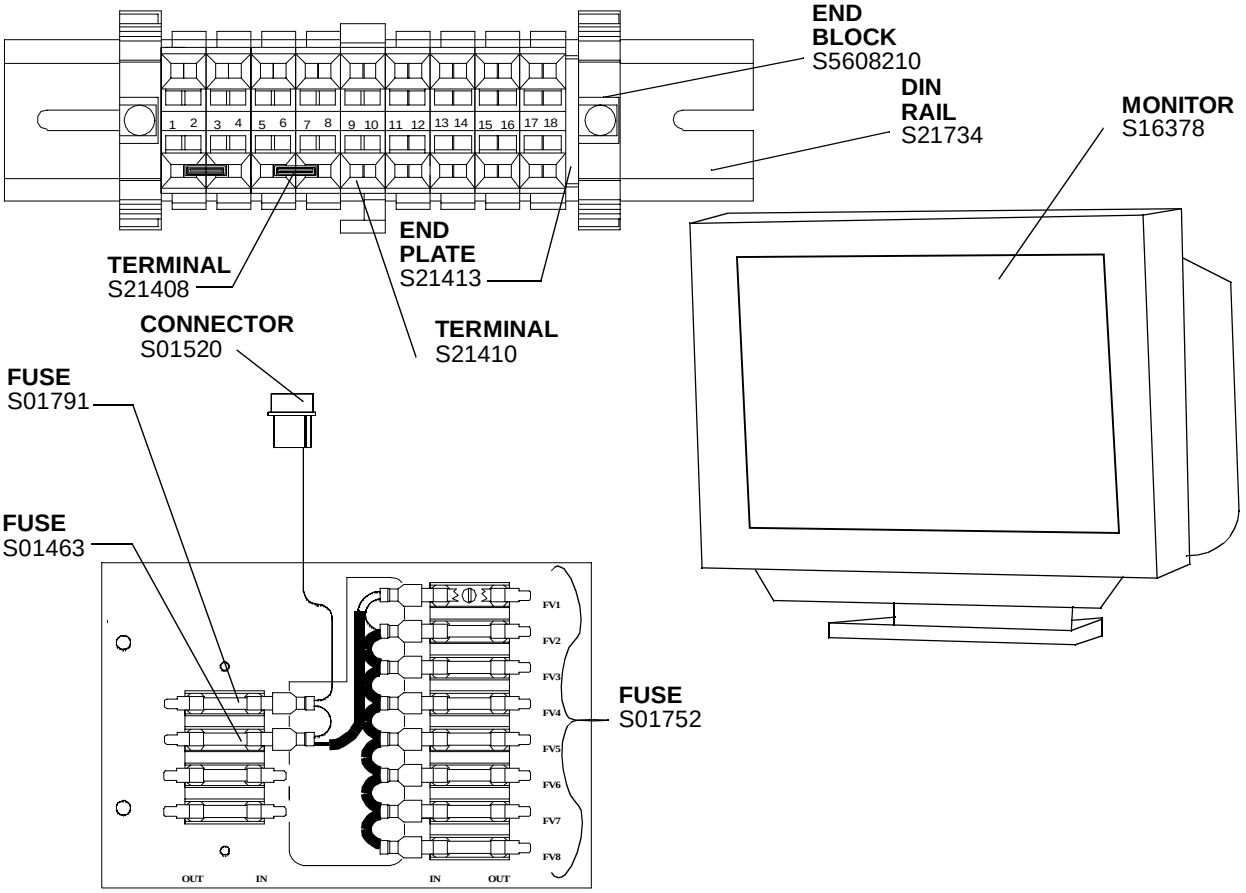
PART NO	DESCRIPTION	NO REQ
S01670	WASHER, 3/16” ID X 3/8” OD X 1/16”	2
S06488	QUART CAN POSITIONING STOP	1
S01178	BOUNG HOLE LIGHT RESISTOR BOARD	1
S21709	NOZZLE BLOCK	1
S21710	ORPHICE (1 PER COLORANT)	A/R
S21712	QUART SHELF	1
21995	QUART SHELF MOUNTING BRACKET	2
S4000003	NUT, 1/4-20	2
S4000027	NUT, 10-32	2
S40003262	LOCK WASHER, 1/2” OD.	2
SF0028C3N10	NUT, 10-31	2

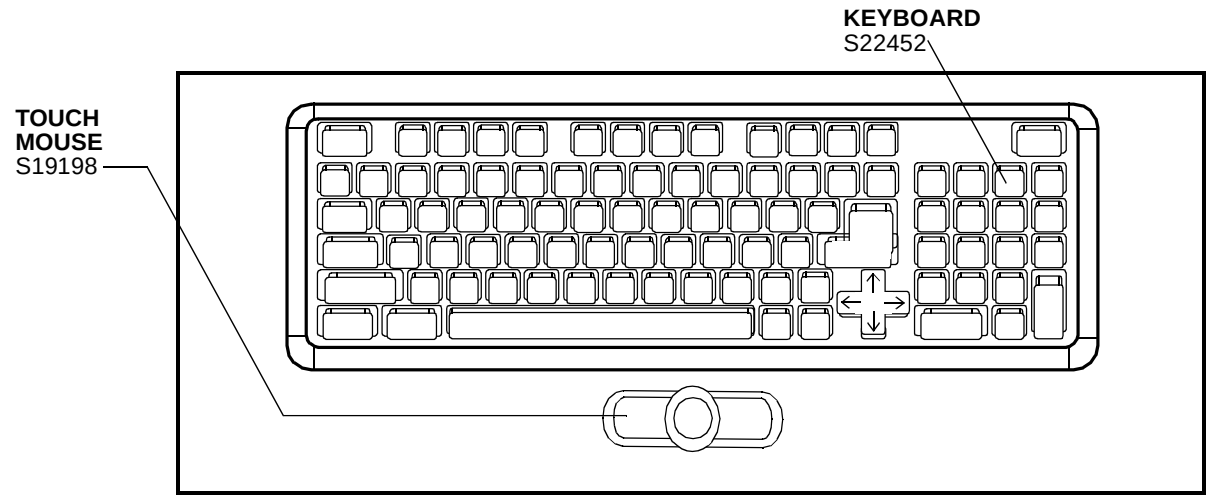

FLOPPY DRIVE S21599
SERIAL PORT S15385
CAN SENSOR S21700
DISPENSE CONTROL BOARD S16281
FLASH ROM S18809

PART NO	DESCRIPTION	NO REQ
S15385	SERIAL PORT CABLE ASSEMBLY	1
S16281	DISPENSE CONTROL BOARD	1
S18809	FLASH ROM, 256K	1
S21599	FLOPPY DRIVE	1
21217	CAN SENSOR	1

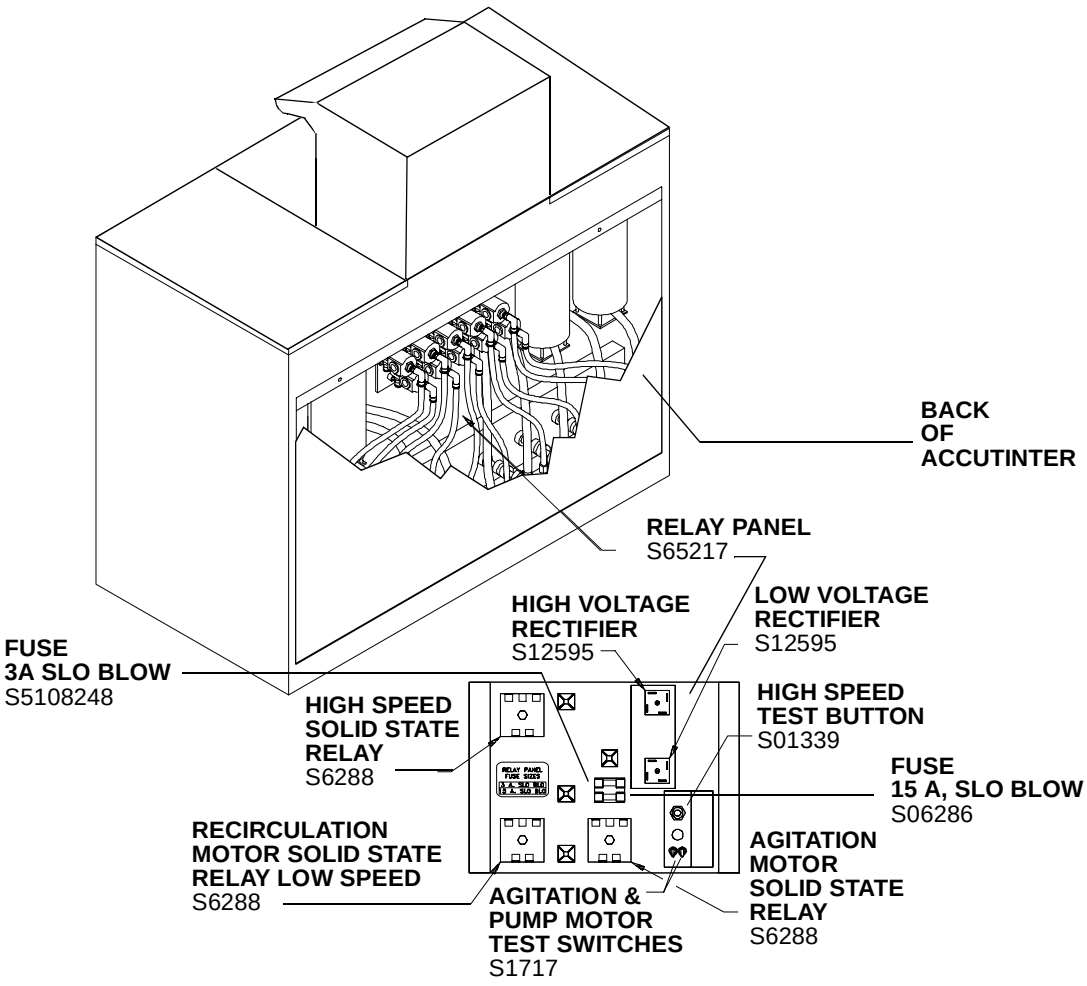

POWER
SUPPLY
S21650
POWER
CABLE
S21650
AUX PC
PORT
S4601346
PORT
S21899
OUTLET
S1007266?
PROCESSOR
BOARD
S21716
DISPENSE
CONTROL
BOARD
S16281

PART NO	DESCRIPTION	NO REQ
S15995	MICROPROCESSOR	1
S21138	PROCESSOR BOARD	1
S21597	MEMORY BOARD 8 MB (NOT SHOWN)	1
S21650	DUAL VOLTAVE POWER SUPPLY	
S121899	PHONE LINE PORT	1
S1007266	POWER RECEPTICAL	1
S4601346	MONITOR PORT	1


END
BLOCK
S5608210
DIN
RAIL
S21734
MONITOR
S16378
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
TERMINAL
S21408
END
PLATE
S21413
CONNECTOR
S01520
TERMINAL
S21410
FUSE
S01791
FUSE
S01463
FUSE
S01752
FV1
FV2
FV3
FV4
FV5
FV6
FV7
FV8
OUT
IN
IN
OUT


KEYBOARD
S22452
TOUCH
MOUSE
S19198

PART NO	DESCRIPTION	NO REQ
S01463	FUSE,1A @ 250V	1
S01520	POWER INPUT CONNECTOR	1
S01752	FUSE, SLOW BLOW, 3A @ 250V	8
S01791	FUSE, SLOW BLOW, 2A @ 250V	1
S16378	14” COLOR CRT MONITOR	1
S19198	TOUCH MOUSE	1
S21408	TERMINAL BLOCK	8
S21410	TERMINAL BLOCK	1
S21413	TERMINAL BLOCK END PLATE	1
S5608210	TERMINAL BLOCK END BLOCK	2


BACK
OF
ACCUTINTER
RELAY PANEL
S65217
HIGH VOLTAGE
RECTIFIER
S12595
LOW VOLTAGE
RECTIFIER
S12595
FUSE
3A SLO BLOW
S5108248
HIGH SPEED
SOLID STATE
RELAY
S6288
HIGH SPEED
TEST BUTTON
S01339
FUSE
15 A, SLO BLOW
S06286
RECIRCULATION
MOTOR SOLID STATE
RELAY LOW SPEED
S6288
AGITATION
MOTOR
SOLID STATE
RELAY
S6288
AGITATION &
PUMP MOTOR
TEST SWITCHES
S1717

PART NO	DESCRIPTION	NO REQ
S01339	PUSHBUTTON (1PER PUMP MOTOR)	1(2)
S06268	FUSE, 15 AMP, SLOW BLOW	1
S1717	TOGGLE SWITCH, SPDT	2
S6288	SOLID STATE RELAY	3
S12595	FULL WAVE BRIDGE RECTOFYER	2
S65217	RELAY PANEL ASSEMBLY	1
S5108248	FUSE, 3 AMP, SLOW BLOW	1

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If within one year from the date of shipment or one year from the proven date of installation, any equipment covered by this manual shall prove to be defective in materials or workmanship upon examination by FLUID MANAGEMENT (“SELLER”), SELLER will supply identical or substantially similar replacement equipment or parts, or at SELLER's option, will repair or allow credit for such equipment. In addition, within the United States and Canada, labor costs are covered for the first six months following shipment or proven installation date for repairs to the following components: crankshafts, motors, speed reducers, circuit boards, relays, relay panels, power supplies, transformers, frames, gear pumps, solenoid valves, canholders, bearings and clutch springs. All labor must be approved in advance by SELLER and performed by a Fluid Management Authorized Service Center.

PURCHASER MUST NOTIFY SELLER OF A WARRANTY CLAIM WITHIN THIS PERIOD. NO RETURNS ARE AUTHORIZED WITHOUT A RETURN GOODS AUTHORIZATION FORM. Any repair or replacement provided hereunder shall be warranted against defects in material or workmanship for the unexpired portion of the equipment warranty. This warranty does not cover software, which is covered by separate warranty.

Disclaimer

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Fax (847) 537-5530

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