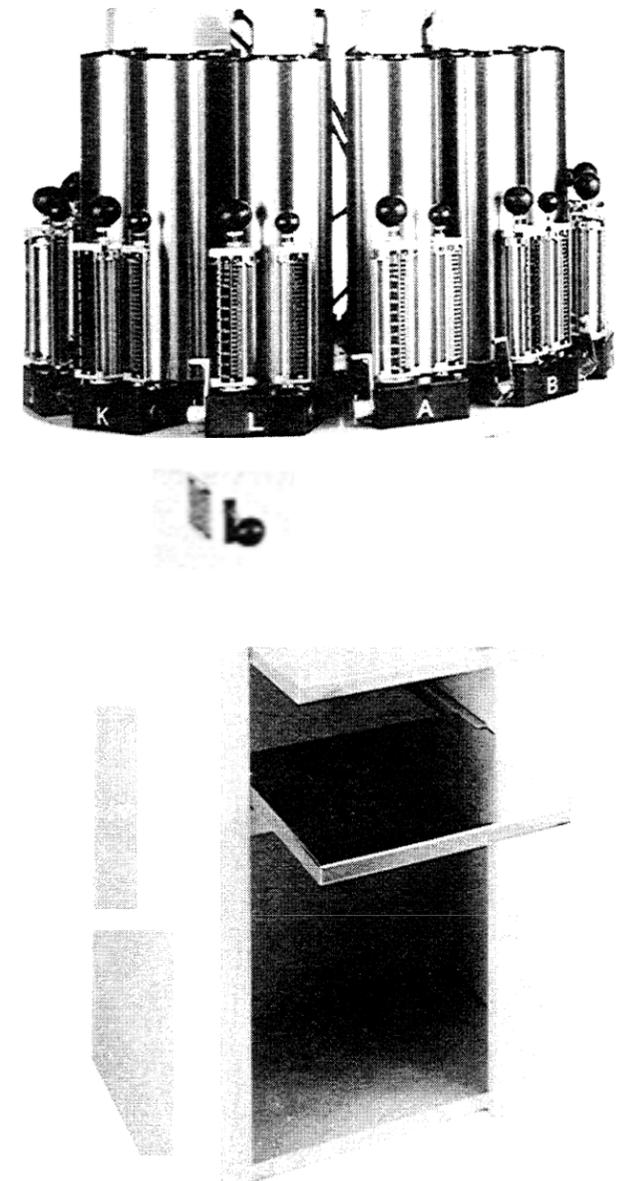


Harbil®

Dual Pump Color Dispenser Operating and Instruction Manual



FM *Harbil®*
Fluid Management®

1023 Wheeling Road
Wheeling, Illinois 60090-5776
Telephone: (847) 537-0880
1-800-462-2466
Fax: (847) 537-5530



Confidential

Property of Fluid Management, Inc.

© Copyright 1992 Fluid Management, Inc. as an unpublished work.
All rights reserved.

Fluid Management™

HARBIL DUAL PUMP COLOR DISPENSER

OPERATING AND INSTRUCTION MANUAL

READ CAREFULLY BEFORE ASSEMBLING THE MACHINE

IMPORTANT

Unpack all of the shipping cartons and carefully inspect the contents for any concealed damage which may have occurred in transit. If such damage is found, notify the carrier at once and arrange for an inspection and a concealed damage report from the carrier's inspector in order to make a claim for recovery. Claims for damage must be made by the CONSIGNEE, as the carrier assumes full responsibility upon acceptance of the shipment and will not entertain any claims made by the CONSIGNOR.

FOREWORD

Your Harbil Dual Pump Color Dispenser has been designed with every consideration possible to provide for simplicity of operation, complete accuracy and no maintenance of any mechanical parts. It can be set up and put into service within a matter of minutes and anyone can learn to operate it on the first attempt by following the simple instructions contained in this manual.

While function was a primary factor in the design, the Dual Pump Dispenser is an attractive unit and will always look like new with proper housekeeping.

Cleanliness of the dispenser and proper maintenance of the colorant in the machine are the only requirements necessary for a long and satisfactory use of this dispenser.

GENERAL INSTRUCTIONS

DUAL PUMP TURNTABLE FLOOR BASE ASSEMBLY NEW STYLE

1. ASSEMBLING THE MACHINE

fastening of the individual canisters to the in-line base or turntable in their proper numerical or alphabetical sequence. Do not fill the canisters with colorant before they are mounted on the base.

- A. Place the first canister in position on the in-line base or at the front of the turntable.
- B. Screw three 1/4-20 hex-head bolts with rubber washers into the bottom of the canister and after all three bolts are in place snug them up with a wrench (these bolts and washers are packaged in a separate bag with the red nozzle caps). DO NOT over tighten the bolts.
- C. On turntable models, depress the index lever and move the turntable to the next position and repeat the above procedure until all of the canisters are mounted.
- D. The canister covers can now be installed on the canisters.

IMPORTANT:

See Section 6, CANISTER COVERS AND NOZZLE CAPS on page 8.

CAUTION:

To avoid risk of fire or injury, unplug power before servicing fuses or electrical components.

To reduce the risk of electric shock, use indoors only.

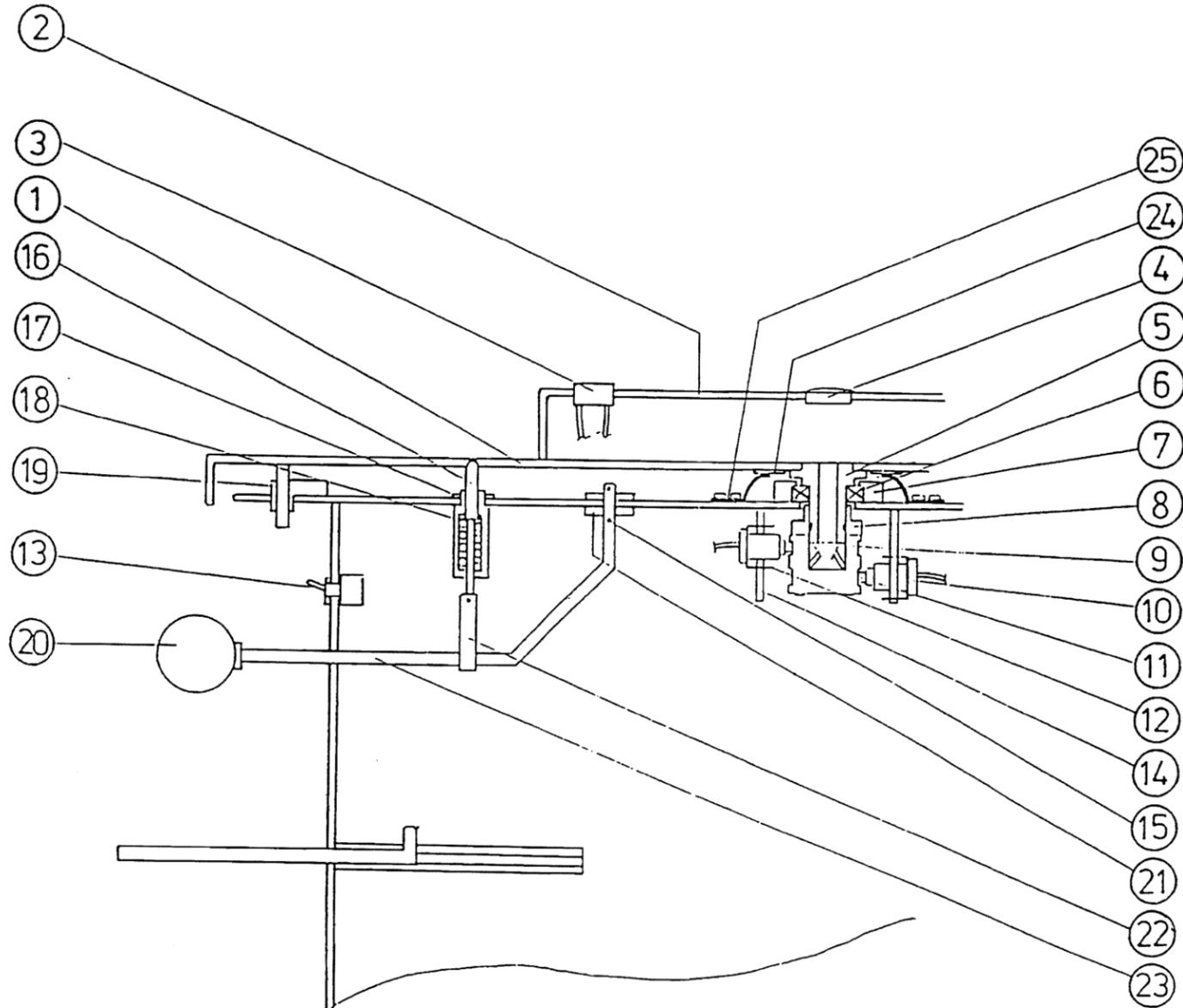
ITEM	PART NO.	DESCRIPTION	NO.REQ.
1	4100534	Turntable.12 Canister.34" DP	1
1	4100538	Turntable.14 Canister.38" DP	1
2	4131284	Box, Receptacle, Assembly, Complete,12,NS	1
2	4131484	Box, Receptacle, Assembly, Complete,14,NS	1
2	4131684	Box, Receptacle, Assembly, Complete. 16,NS	1
2	4103801	Box, Receptacle	12-14-16
4	4000157	Plug, Button.3/4" #3754.Nickel	1
5	4105402	Shaft, Center, Turntable, DP	1
6	4000005	Bearing, Ball, #6003Z (TT & Wheel)	1
7	4100400	Bearing, Housing Assembly	1
7	4100401	Bearing, Housing Only	1
8	4103806	Adapter, Collector Ring	1
9	4103815	Ring, Collector Assembly, NS	1
10	4103816	Brush, Collector, Complete w/Bracket (Set)	1
10	4103817	Brush, Collector, Complete w/Bracket (1)	2
10	4100828	Brush, Brush Holder Only	2
11	4100808	Brush, Collector Only	2
12	4100813	Bracket, Brush Holder	2
12	4000138	Ring, Retaining #5105-50-015	2
12	4000139	Ring, Retaining #1000-25-STPH	4
13	4000033	Switch, Toggle On / Off Assembly	1
14	4100817	Stud, Bracket Mount (Upper)	1
14	4100818	Stud, Bracket Mount (Lower)	1
15	4000011	Pin,Cotter.3/32 X 3/4" LG.C/Z	5
16	4120925	Pin, Index Assembly Complete (Floor)	1
16	4120905	Pin, Index Only (Floor)	1
17	4120908	Nut.Hex.7/16-27, Thin, C/Z	1
18	4120906	Spring.Index (Floor)	1
19	4150300	Wheel, Axle Assembly (Floor) Complete, DP	1
19	4150301	Axle, Wheel Only (Floor), DP	1
19	4000005	Bearing.Ball.#6003Z.WH & TT	5
19	4000006	Ring, Retaining.#3100-66	5
20	4000008	Knob, Black, #25, 5/16-24 TH	1
21	4000010	Washer.Plain.5/16"ID x 5/8" OD 1/16" Thick	2
22	4120909	Link, Index Wire (Floor)	1
23	4120901	Lever, Index.15" (Floor)	1
23	4120902	Lever, Index.18" (Floor)	1
23	4120903	Lever, Index.19" (Floor)	1
23	4120904	Lever, Index.13" (Floor)	1
24	4150819	Ground, Washer Ring, 5oz.	1
25	4150801	Ground, Spring Clip, TT Disp.	2

CAUTION: DO NOT ATTEMPT TO CLEAN DISPENSER WITH FLAMMABLE SOLVENTS OR OTHER HAZARDOUS MATERIALS.

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 Harbil Dispenser.

NOTE: No parts are to be returned without prior authorization (Returned Goods Authorization number required).

DUAL PUMP TURNTABLE FLOOR BASE ASSEMBLY
NEW STYLE



GENERAL INSTRUCTIONS

2. FILLING THE CANISTERS

A. CANISTER CAPACITY

The canister has a capacity of six quarts and it is recommended that on the initial filling a minimum of two quarts of colorant be added to the canister. The maximum capacity of the dispensing pumps is one and five ounces.

B. COLORANTS

THE COLORANTS SHOULD BE PROPERLY BLENDED BEFORE PUTTING THEM IN THE CANISTERS (OR AS OTHERWISE RECOMMENDED BY THE COLORANT MANUFACTURER). It is important that a colorant be uniform in consistency before being added to the canister.

C. PAINT MIXER

A paint mixer is the best method for thorough blending of the colorants before adding them to the canisters (unless otherwise recommended by the colorant manufacturer). The actual mixing time depends on the individual colorant. However, the minimum time should be one minute.

D. HANDSTIRRING

If a paint mixer is not available, hand stirring will suffice provided the colorant is mixed thoroughly.

E. AIR REMOVAL

After the colorants have been poured into the canisters, either on the initial fill or a refill, it is recommended that they be agitated again in the canister. Entrapped air will rise to the surface and be expelled during this operation. In the case of a refill, this will also blend the additional colorants.

GENERAL INSTRUCTIONS

DUAL PUMP 192 OZ. COVER, MOTORIZED ASSEMBLY

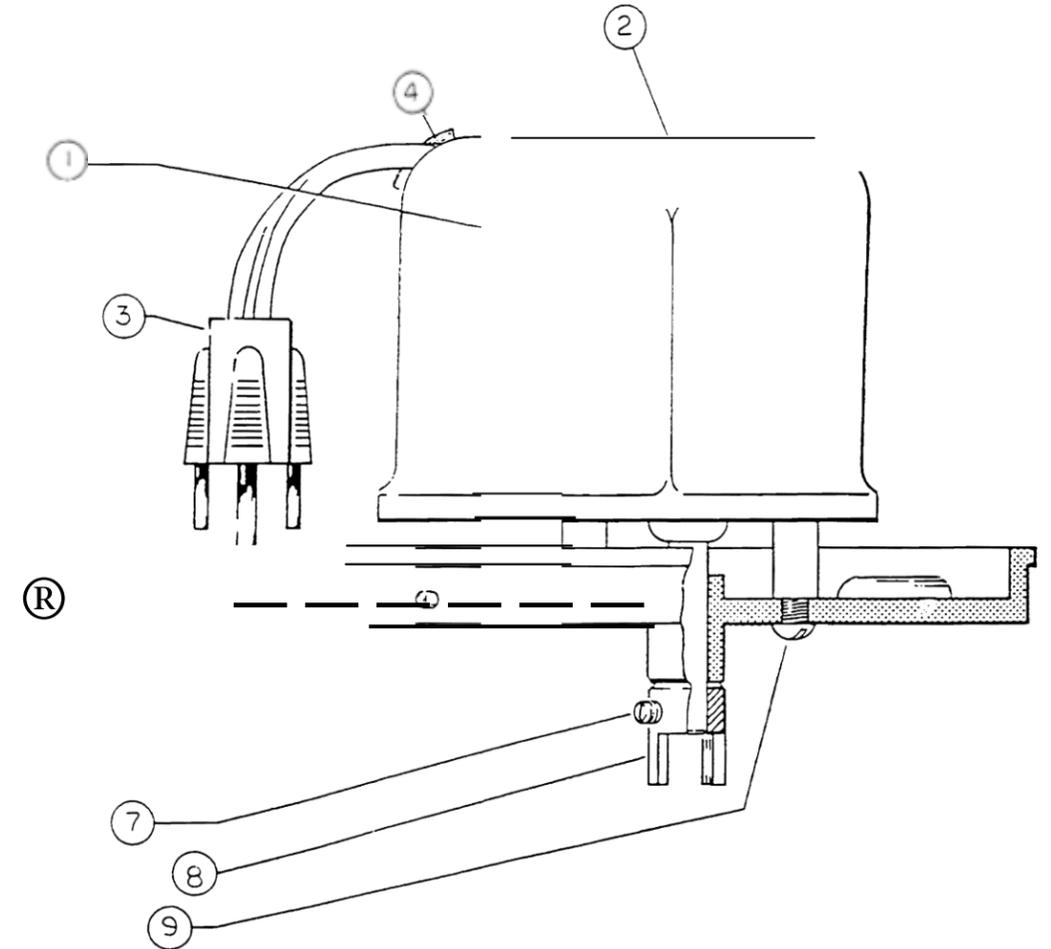
3. PRIMING THE PUMPS

To prime the pumps, move the knob (see parts list for orientation) on the top of the gauge assembly all the way up until the gauge is stopped by the indicator at the full measure. Hold it up for several seconds and then depress the knob all the way down until it stops at the zero position. Repeat this two or three more times, using an even amount of force. Both the one ounce and the five ounce pumps require priming.

The pumps are now ready to dispense colorants.

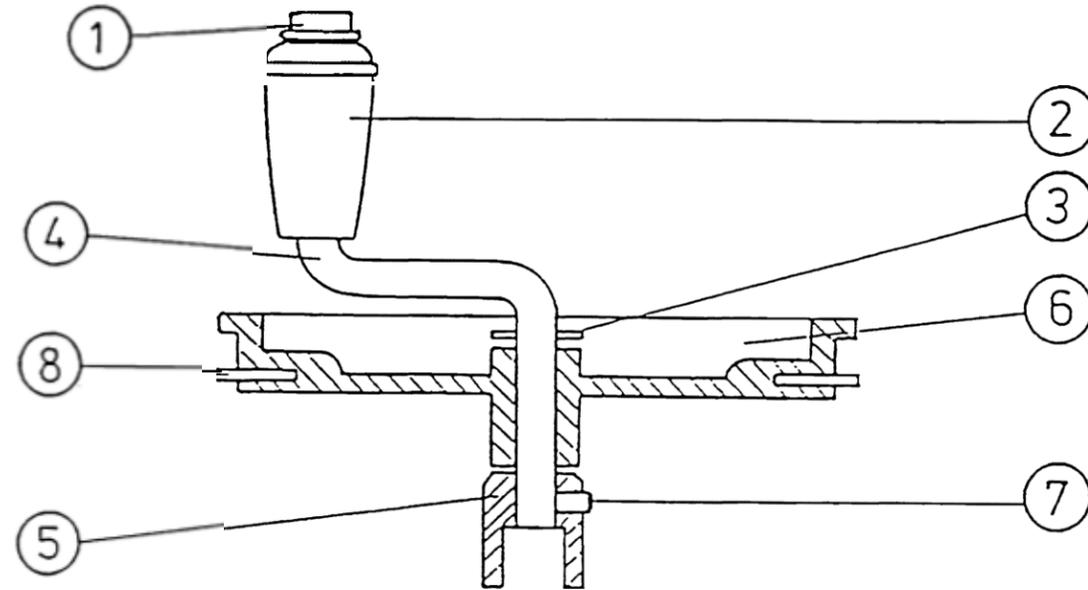
CAUTION:

Do not open the dispensing valve lever (see parts list for orientation) during the priming of the pumps.



ITEM	PART NO.	DESCRIPTION	NO.REQ.
	4439000	Cover, Motorized Assembly,192 oz.	1
	4439010	Cover, Motorized Assembly,3434. 192 oz.	1
1	4430008	Motor, 1267. w/Aluminum Cover & 28" Cord Only	1
1	4430009	Motor 3434. w/Aluminum Cover & 28" Cord Only	1
1	4430001	Motor Only, 1267.120V.60 Hz.	1
1	4430101	Motor Only, 3434,220V.50 Hz.	1
1	4430102	Motor Only, 4022. 24V.50 Hz.	1
2	4430003	Cover, Motor, Aluminum Only	1
3	4438002	Cord, Motor Set. 28" U.S.	1
4	4000023	Strain Relief.#6N3-4 Heyco	1
5	4439001	Cover, Canister.Motor.Only.192 oz.	1
6	4418007	Pin, Dowell,1/8 x 3/8" Steel	2
7	4000028	Screw, Set.10-32 x 1/4".Slot.SS	1
8	4430002	Connector.Agitator, 5/16". w/Screw	1
9	4000064	Screw,THCS.8-32 x 3/8".Slot.SS	3

DUAL PUMP 192 OZ.
COVER, MANUAL ASSEMBLY



ITEM	PART NO.	DESCRIPTION	NO.REQ.
	4419000	Cover, Manual Assembly. 192 oz.	1
1	4419005	Cap, Knob. 192 oz.	1
2	4419004	Knob, Crank. 192 oz.	1
3	4000063	Pin, Roll, 1/8 x 3/4...SS	1
4	4419002	Crank, Manual, w/Knob. 192 oz.	1
4	4419006	Crank, Manual. Only. 192 oz.	1
5	4430002	Connector, Agitator. 5/16... w/Screw	1
6	4419001	Cover, Canister, Manual Only	1
7	4000028	Screw. Set. 10-32 x 1/4...Slot, SS	1
8	4418007	Pin, Dowell. 1/8 x 3/8...Steel	2

GENERAL INSTRUCTIONS

4. MEASURING AND DISPENSING THE COLORANT

The Dual Pump Color Dispenser has a one ounce and a five ounce capacity dispensing pump on each canister.

The one ounce capacity dispensing pump is equipped with a gauge assembly calibrated for the colorant system designated by the purchaser and is used when dispensing into base paint containers of one gallon size or less.

The five ounce capacity dispensing pump is equipped with a dual calibration gauge assembly. The right side of the gauge assembly is calibrated in the same incrementation as the gauge assembly on the one ounce pump. The same formula that is used to dispense from the one ounce pump into one gallon containers can be used to dispense from the five ounce pump into five gallon containers, without requiring formula conversion. The left side of the gauge assembly is calibrated in true volume increments from one-eighth ounce to five ounces and is used for dispensing large amounts of colorant.

A. MEASURING THE ONE OUNCE DISPENSING PUMP

Turn the pump gauge to the right to disengage it from the indicator pointer. Raise the pump gauge so that the indicator is opposite the notch on the gauge corresponding to the amount of colorant to be dispensed. Then turn the handle to the left and move the indicator into the desired notch. If the colorant is heavy-bodied, allow a few seconds for the colorant to completely fill the pump.

Open the dispensing valve by pulling the valve lever forward to the one ounce pump dispensing position (see illustration on page 7) until a positive stop is felt.

With the valve lever open, turn the pump gauge to the right to disengage it from the indicator pointer and depress fully.

Return the valve lever to the closed (up) position.

GENERAL INSTRUCTIONS

DUAL PUMP 192 OZ. CANISTER PUMP ASSEMBLY

B. MEASURING THE FIVE OUNCE DISPENSING PUMP

1. Turn the pump gauge to the left or right to disengage it from the indicator pointer. Raise the pump gauge so that the indicator is opposite the notch on the side of the gauge corresponding to the amount of colorant to be dispensed. Then turn the knob to the left or right to move the indicator into the desired notch. If the colorant is heavy-bodied, allow a few seconds for the colorant to completely fill the pump.
2. Open the dispensing valve by pulling the valve lever forward to the five ounce pump dispensing position (see illustration on page 7) until a positive stop is felt.
3. With the valve lever open, turn the pump gauge to the right or left to disengage it from the indicator pointer and depress fully.
4. Return the valve lever to the closed (up) position.

CAUTION:

Do not open (pull forward) the dispensing valve lever when measuring colorant. If the valve lever is opened before the pump gauge has been located in the proper notch it can be corrected by returning the valve lever to the closed (up) position and fully depressing the pump gauge returning the colorant to the canister. The pump must then be re-primed (see Section 3, PRIMING THE PUMPS on page 4) before starting the measuring procedure again.

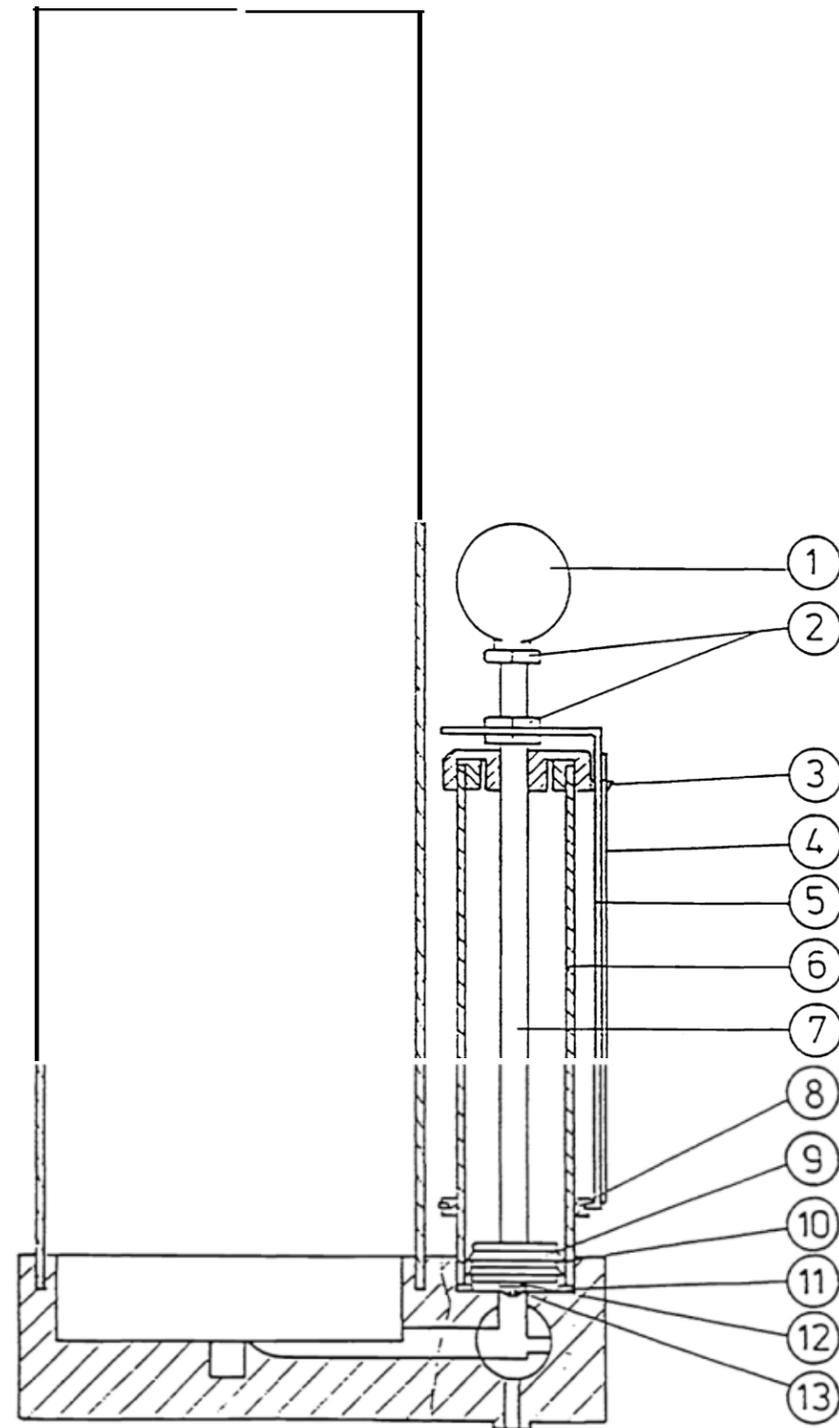
After the pump gauge indicator is located in the notch and the valve lever is opened, any further movement of the pump gauge either in an upward or downward direction will have no effect on the accuracy of the amount of colorant to be dispensed, as the colorant source from the canister is shut off once the valve lever is opened. However, if the pump gauge is raised after the valve lever is opened air will be drawn into the pump through the dispense nozzle. Therefore, care should be taken in SWWLY depressing the pump gauge to avoid spattering of the colorant as the air leaves the dispense nozzle.

IMPORTANT:

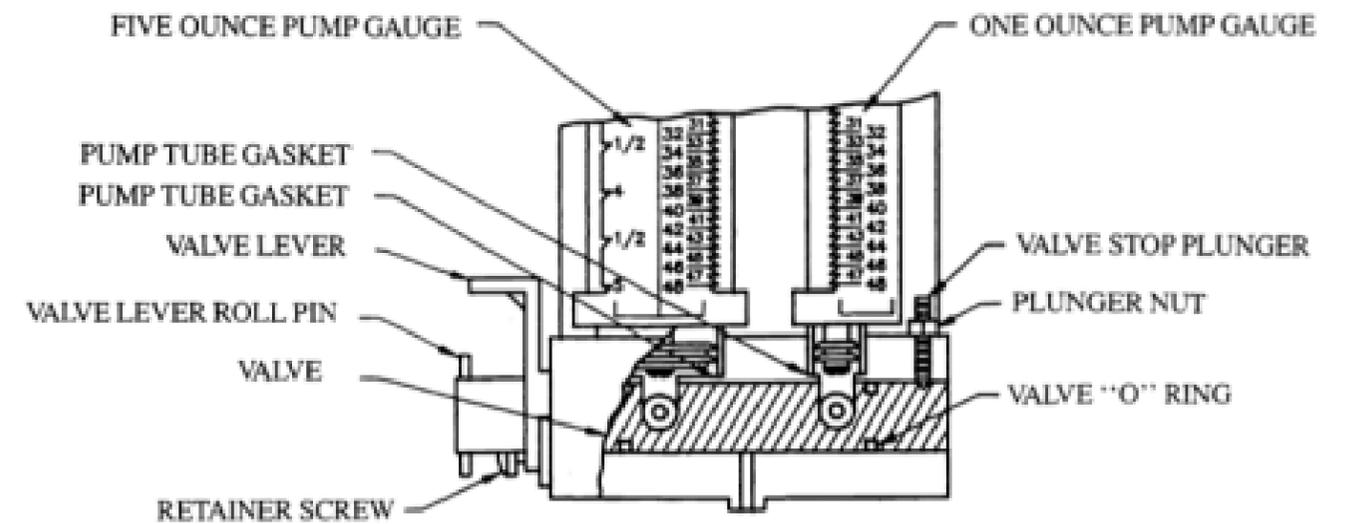
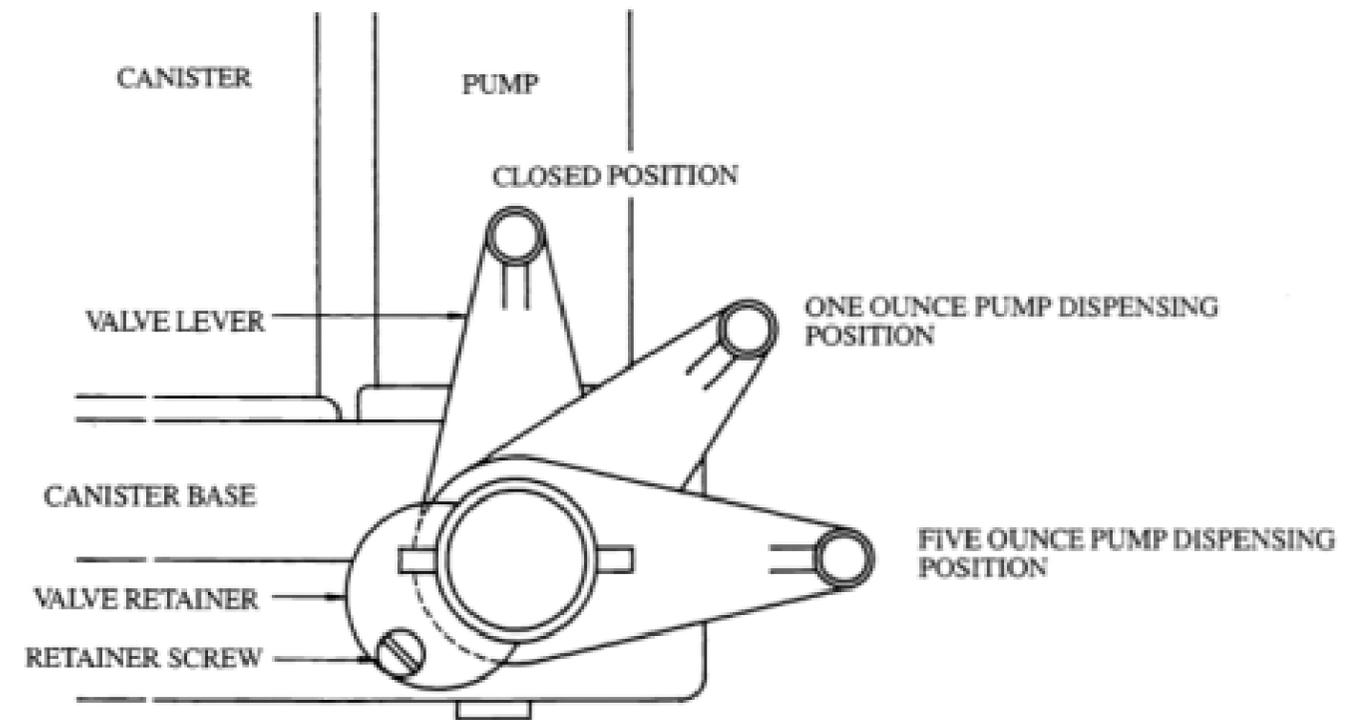
If at any time after raising the pump gauge and with the valve lever open the pump gauge cannot be depressed, DO NOT FORCE the pump gauge. Return the valve lever to the closed (up) position and then depress the pump gauge, returning the colorant to the canister. The failure to depress the pump gauge will be due to dried colorant clogging the dispense nozzle of the canister. To correct this OPEN the valve lever to the one ounce or the five ounce position and insert a paper clip or other similar object into the dispense nozzle. BE SURE TO REMOVE the paper clip before closing the valve lever.

ITEM	PART NO.	DESCRIPTION	NO REQ.
1	4228501	Knob.Black.#44,3/8-16 TH	1
2	4228506	Nut.Hex.3/8-16.Jam	3
3	4228504	Gauge Indicator, Complete w/ screws, 5 oz.	1
3	4228507	Gauge, Indicator, Complete w/ screws.5 oz. • Imp.	1
3	4228508	Gauge, Indicator, Complete w/ screws.5 oz. • Single Lip	1
4	42295-	Scale.Gauge.Only.5 oz.	1
5	42265-	Gauge Assembly Complete, 5 oz.	1
6	4221510	Pump Tube & Piston Rod Assembly.5 oz. • U.S.	1
6	4221520	Pump Tube&. Piston Rod Assembly, 5 oz. • Metric	1
6	4221530	Pump Tube & Piston Rod Assembly, 5 oz. • Imp.	1
6	4225100	Pump Tube.Only.5 oz. • U.S.	1
6	4225200	Pump Tube,Only,5 oz. • Metric	1
6	4225300	Pump Tube.Only.5 oz. • Imp.	1
7	4222520	Piston Rod.Assembly.5 oz. • Metric	1
7	4222530	Piston Rod,Assembly.5 oz. • Imp.	1
7	4222500	Piston Rod.Only.5 oz.	1
8	4228505	Sleeve, Pump Gauge.5 oz.	1
9	4223510	Piston.Teflon.5 oz., Flat, U.S.	3
9	4223520	Piston.Teflon.5 oz., Flat, Metric	3
9	4223530	Piston.Teflon.5 oz., Flat, Imp.	3
10	4224510	Spacer.Piston.5 oz. • U.S.	4
10	4224520	Spacer.Piston.5 oz. • Metric	4
10	4224530	Spacer.Piston.5 oz. • Imp.	4
11	4228502	Gasket, Pump Tube.5 oz.	1
12	4000052	Washer.Fiber.3/16 x 112" x .031	1
13	4000026	Screw.THCS.10-32 x 3/8".Slot.SS	1

DUAL PUMP 192 OZ.
CANISTER PUMP
ASSEMBLY



VALVE LEVER DISPENSING POSITIONS
SEEN FROM LEFT SIDE OF CANISTER



GENERAL INSTRUCTIONS

PUMP 192 OZ. DUAL CANISTER PUMP ASSEMBLY

5. AGITATING THE COLORANTS

Different colorants may require more or less agitation. The manual agitation dispenser normally will require only about ten to fifteen turns of the agitator knob each morning. Dispensers equipped with motorized agitation should be run for a given period of time each morning (approximately fifteen to thirty minutes). The actual amount of agitation time can be determined by your experience with the colorants. It is recommended that if a colorant in a particular canister has not been dispensed for some time, the operator dispense the full measure into an empty receptacle and then pour it back into the canister.

6. CANISTER COVERS AND NOZZLE CAPS

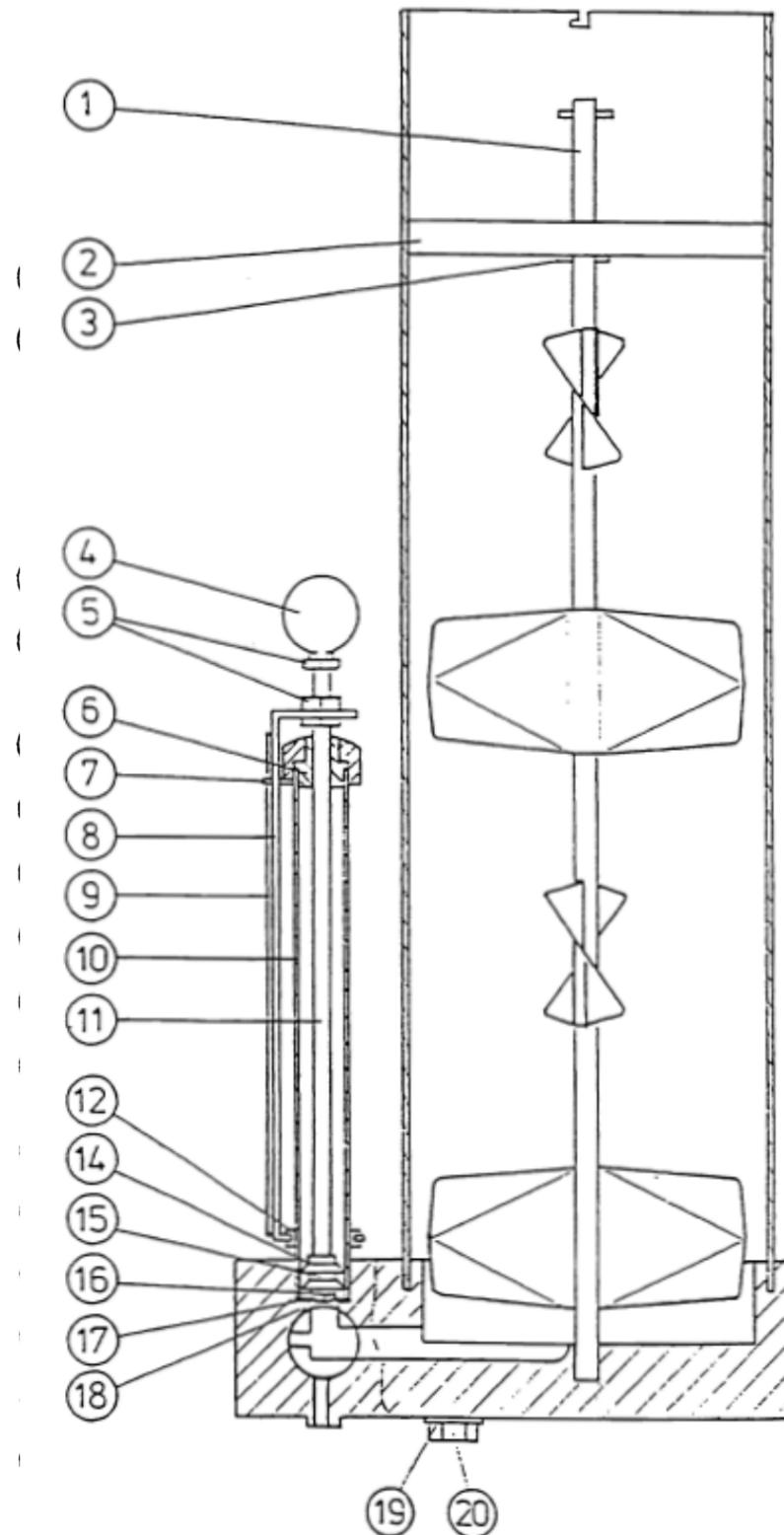
IMPORTANT:

The canister covers should be kept on the canisters at all times to minimize the evaporation and drying of the colorant.

Nozzle caps are provided for the dispense nozzle to help prevent drying of the colorant and they should be removed every morning before using the dispenser and then replaced every night.

ITEM	PART NO.	DESCRIPTION	NO.REQ.
1	4390000	Agitator, Rod Assembly Complete.192 oz.	1
1	4390001	Agitator Rod & Blade Only.192 oz.	1
2	4390003	Guide.Agitator.192 oz.	1
3	4000063	Pin.RoD.118 x 3/4• SS	1
4	4000008	Knob, Black, #25.5/16-24 TH	1
5	4000053	Nut, Hex, 5/16-24 Jam, C/Z	3
6	4225110	Bushing, Pump Tube, 1 oz., U.S.	1
6	4225120	Bushing, Pump Tube, 1 oz., Metric	1
6	4225130	Bushing, Pump Tube, 1 oz., Imp.	1
7	4228102	Gauge Indicator, 1 oz., DP w/ Socket Set Screw	1
8	4226-	Gauge Assembly Complete.1 oz.	1
9	42291-	Scale Only.Gauge.1 oz.	1
10	4221110	Pump, Tube Only. 1 oz., U.S.	1
10	4221120	Pump Tube Only.1 oz., Metric	1
10	4221130	Pump Tube Only.1 oz., Imp.	1
11	4222110	Piston Rod Assembly.1 oz., U.S.	1
11	4222120	Piston Rod Assembly.1 oz., Metric	1
11	4222130	Piston Rod Assembly.1 oz., Imp.	1
	4222100	Piston Rod Only.1 & 2 oz.	1
12	4228103	Sleeve, Pump Gauge, 1 oz.	1
14	4223110	Piston, Teflon. 1 oz., Flat, U.S.	3
14	4223120	Piston, Teflon, 1 oz., Flat, Metric	3
14	4223130	Piston.Teflon.1 oz., Flat, Imp.	3
15	4224110	Spacer, Piston, 1 oz., U.S.	4
15	4224120	Spacer, Piston, 1 oz., Metric	4
15	4224130	Spacer, Piston, 1 oz. Imp.	4
16	4000052	Washer, Fiber, 3/16 x 1/2 x .031	1
17	4228100	Gasket, Pump Tube, 1 oz.	1
18	4000026	Screw, THCS, 10-32 x 3/8", Slot, SS	1
19	4000056	Washer, Rubber, 1/4 x 1/2	3
20	4000001	Screw, HHCS, 1/4-20 x 1/2" C/Z	3

DUAL PUMP 192 OZ. CANISTER
PUMP ASSEMBLY



PROCEDURE FOR USING THE
HARBIL DUAL PUMP COLOR DISPENSER

1. Determine the formula of the color selected by the customer.
2. Refer to the formula book and select the proper base paint, remove the lid and place the can in position on the dispensing shelf of the machine.
 - A. On the "in-line" model position the paint can under the first colorant canister required by the formula.
 - B. On the "turntable" model place the paint can in position in front of the turntable, depress the index lever and move the first colorant canister required by the formula into position over the paint can.
3. Adjust the pump gauge to the scale setting shown in the formula book and dispense the colorant (as described in GENERAL INSTRUCTIONS-Section 4, MEASURING AND DISPENSING THE COLORANT on pages 5 and 6).
4. If more than one stroke or scale setting is required, repeat step 3.
5. If more than one colorant is required, repeat steps 2, 3 and 4.
6. After all of the colorant is added, replace the lid and mix the can in a paint mixer for the required time period, or stir thoroughly and then replace the lid, to insure complete mixing of the colorants.

HARBIL DUAL PUMP COWR DISPENSER MAINTENANCE

1. DAILY MAINTENANCE

Agitate the colorants as required every morning. The actual amount of agitation time can be determined by your own experience with the colorants. On dispensers equipped with manual agitation this would normally be about ten to fifteen turns of the agitator knob every morning, although this may vary from colorant to colorant. Dispensers equipped with motorized agitation would normally be run for approximately fifteen to thirty minutes.

Check the level of the colorant in all of the canisters and if the colorant level is down to one-half of the lower agitation blade, add a minimum of two quarts of colorant. The correct operating amount of colorant in each canister should be from one-half quart to six quarts.

Wipe all of the nozzles clean with either water or mineral spirits, depending on the type of colorant being used (DO NOT USE MINERAL SPIRITS FOR WATER OR GLYCOL BASED COLORANTS, as this will cause damage to the O-Rings on the Valve Assembly).

2. WEEKLY MAINTENANCE

Dispense a full measure of any colorant that has not been used during the week into an empty receptacle and then pour it back into the canister (as described in GENERAL INSTRUCTIONS-Section 5, AGITATING THE COLORANTS on page 8).

3. GENERAL MAINTENANCE

IMPORTANT:

If the dispense nozzle of the pump should become clogged the insertion of a paper clip or other similar object will clean out any obstruction in the nozzle. However, before doing this, the DISPENSING VALVE LEVER MUST BE OPENED (pulled forward) as in dispensing. BE SURE TO REMOVE the paper clip before closing the valve lever.

If a colorant leak develops at the top of the dispensing pump or there is colorant on the piston rod, a one ounce or five ounce Pump Repair Kit (part no. 4223112 and 4223502 respectively) should correct the problem. If after replacement of the Pump Repair Kit the problem still persists, the inside walls of the pump tube may be scored and the pump tube will have to be replaced.

It is recommended that one or two pump repair kits be kept in stock for emergencies.

DUAL PUMP 192 OZ. CANISTER PUMP ASSEMBLY

ITEM	PART NO.	DESCRIPTION	NO. REQ.
	4209000	Canister Pump Assy. w/o Agitator & Cover.192 oz. U.S.	1
	4209002	Canister Pump Assy. w/o Agitator & Cover.192 oz. Metric	1
	4209003	Canister Pump Assy. w/o Agitator & Cover.192 oz. Imp.	1
	4209060	Canister Pump Assy. w/o Agitator & Cover.192 oz. U.S. 6MM Exit Port	1
	4219000	Canister Block & Sleeve Only,192 oz.	1
	4219060	Canister Block & Sleeve Only.192 oz., 6MM Exit Port	1
1	4000008	Knob, Black, #25.5/16-24 TH	1
2	4228501	Knob, Black.#44.3/8-16 TH	1
3	4000018	Screw, Set, 8-32 x 3/16, Socket, C/P	5
4	4226-	Gauge Assembly Complete.1 oz.	1
5	42265-	Gauge Assembly Complete.5 oz.	1
6	4228100	Gasket, Pump Tube.1 oz.	1
7	4228502	Gasket, Pump Tube.5 oz.	1
8	4235004	Lever. Valve, 5 oz.	1
9	4235005	Pin, Roll, 1/8 x 1-1/2, SS	1
10	4235000	Valve, Lever Assembly Complete, 5 oz.	1
10	4235601	Valve, Lever Assembly Complete.5 oz. (6MM)	1
10	4235501	Valve & O' Ring Assembly.5 oz. (Viton)	1
10	4235507	Valve & O' Ring Assembly.5 oz. (Thiokol)	1
11	4235006	O' Ring, Valve, Viton.5 oz.	2
11	4235007	O' Ring, Valve, Thiokol, 5 oz.	2
12	4000061	Screw, PHCS.10-24 x 3/8 Slot, C/Z	1
13	4235013	Retainer, Valve, Lever. 5 oz.	1
14	4235011	Plunger Valve Stop	1
15	4000150	Nut, Hex.1/4-28.Jam	1
	4000108	Nozzle, Cap and Pad	1

Kits

4290502	Kit. Canister Repair.5 oz. • U.S.
4223502	Kit.Pump Repair.5 oz•• U.S.
4223112	Kit.Pump Repair.1 oz•• U.S.
4235014	Kit. Valve Repair.5 oz. • Single Exit
4235015	Kit. Valve Repair.5 oz. • Double Exit

DUAL PUMP 192 OZ.
CANISTER PUMP ASSEMBLY

HARBIL DUAL PUMP COWR DISPENSER
MAINTENANCE

4. CLEANING THE CANISTER PUMP ASSEMBLY

When it becomes necessary to clean a canister pump assembly, remove the canister from the base and pour out as much of the colorant as possible.

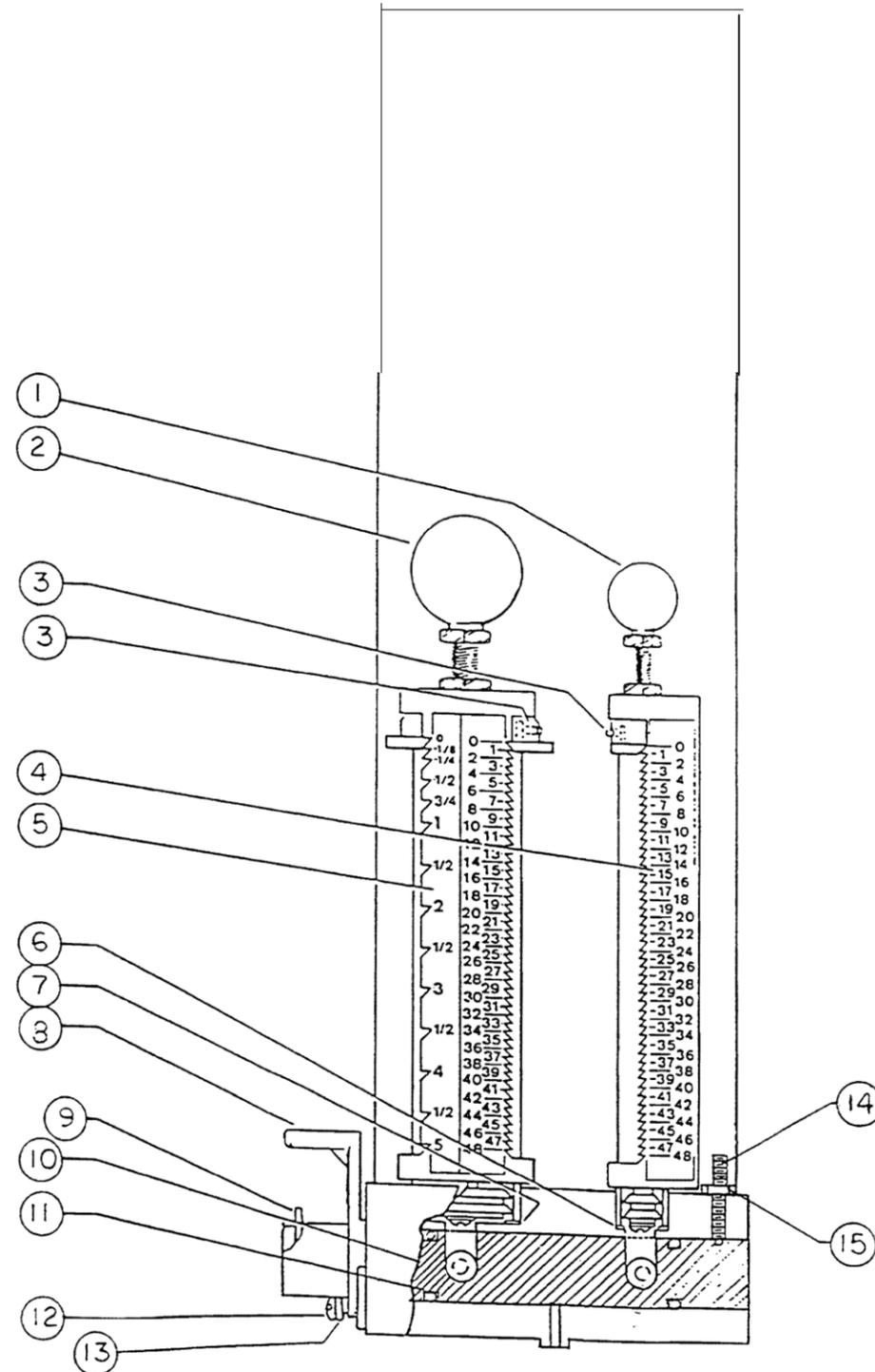
If the colorants are water soluble, wash the canister thoroughly with warm water and a liquid detergent and rinse with clean warm water. Next fill the canister with a small amount of water and with the valve lever closed, raise and lower the knob on the pump and gauge assembly several times. Then make several dispenses of the water through the dispense nozzle, the same as you would for colorant. Pour out any remaining water and wipe dry before replacing the canister on the dispenser. Dispense any water left in the pump assembly before refilling the colorant.

If the colorants are not water soluble, the procedure is the same as above, except in place of water mineral spirits or a similar solvent is recommended.

IMPORTANT:

DO NOT use solvents in canisters intended for water or glycol based colorants as this will damage the O-Rings on the Valve Assembly. When cleaning the canister,

DO NOT submerge the pump gauge assembly portion of the canister or let water or mineral spirits get into the top of the pump assembly.



GROUNDING INSTRUCTIONS FOR EQUIPPED WITH MOTORIZED AGITATION

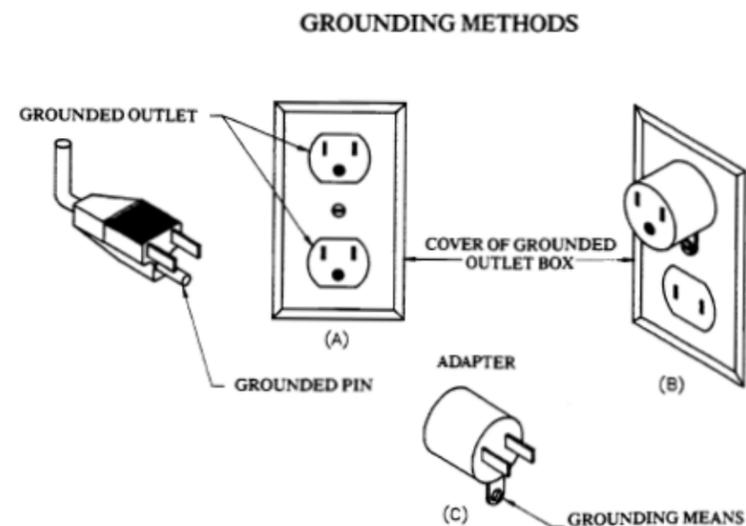
This product should be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER-Improper use of the grounding plug can result in a risk of electric shock.

If repair or replacement of the cord or plug is necessary, do not connect the grounding wire to either flat blade terminal. The wire with the insulation having an outer surface that is green with or without yellow stripes is the grounding wire.

Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

This product is for use on a nominal 120 volt circuit, and has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (sketch A) can be installed by a qualified electrician. The green colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by the screw.



EXTENSION CORDS FOR DISPENSERS EQUIPPED WITH MOTORIZED AGITATION

Use only a 3-wire extension cord that has a 3-blade grounding plug, and a 3-slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The table below shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge.

NOTE: The smaller the gauge number, the heavier the cord.

**MINIMUM GAUGE FOR EXTENSION
CORDS**

Ampere Rating	Volts	Length of Cord in Feet								
		25 ft.	50 ft.	100 ft.	150 ft.	200 ft.	250 ft.	300 ft.	400 ft.	500 ft.
		50 ft.	100 ft.	200 ft.	300 ft.	400 ft.	500 ft.	600 ft.	800 ft.	1000 ft.
0-2		18	18	18	16	16	14	14	12	12
2-3		18	18	16	14	14	12	12	10	10
3-4		18	18	16	14	12	12	10	10	8
4-5		18	18	14	12	12	10	10	8	8
5-6		18	16	14	12	10	10	8	8	6
6-8		18	16	12	10	10	8	6	6	6
8-10		18	14	12	10	8	8	6	6	4
10-12		16	14	10	8	8	6	6	4	4
12-14		16	12	10	8	6	6	6	4	2
14-16		16	12	10	8	6	6	4	4	2
16-18		14	12	8	8	6	4	4	2	2
18-20		14	12	8	6	6	4	4	2	2