Li'l Mizer

SERVICE MANUAL

CMA DISHMACHINES

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LI'L MIZER

SERVICE MANUAL

The Li'l Mizer dishwasher represents the latest engineering development in the undercounter dishwashing concept. This operator's manual provides instructions for the tuning and operation of the machine. CMA has attempted to use many of the component parts used in its standard line of dishwashers for the undercounter machine. Each major component part and function will be explained in this section.

SECTION I - Timer Assembly

GENERAL

CAUTION: Never remove control box cover without first turning off the master switch located on the control panel cover.

The timer consists of a group of small, rotary-type cams mounted on one common shaft. The shaft is attached to gear on one end which is driven by a syncron positive RPM motor. The shaft in the standard timer is driven to make one complete revolution in two minutes.

As the cam shaft turns, the cams operate micro switches that control the various mechanisms on the machine, establish the sequence of the cycle and the length of time allowed each function in the cycle. By adjustment of certain cams, the time allowed the particular function may be changed. The following outlines the functions of each cam. They are number 1 through 7 from left to right.

1st Cam - Left End (Start/Stop)

Operates or controls the current to the syncron motor and the relay that operates the pump motor. When the machine is off, the micro switch roller is laying in the bottom of the cam groove. When the start switch is tripped, and held in, it bypasses this micro switch and starts the syncron motor and pump motor. In 1/2 second, the syncron motor has turned the cam shaft far enough for the micro switch roller to ride upon the cam and make contact, which keeps the syncron and pump motors running until the shaft makes a complete turn and the switch roller rides down into the cam groove which activates the switch and shuts off both motors.

MALFUNCTIONING OF NO. 1 CAM

1. Machine continues to run

   a. Assure start switch is functioning normally (Cam No. 1). The wiper arm must travel down into the groove far allowing the switch to function.

   b. Determine if machine cycling stops but pump continues to run. In this case, mercury relay to the pump is defective.

   c. The cam groove is too narrow allowing the master timer train to coast through the stop groove and begin a new cycle. Should the turning momentum of the syncron motor and cam carry a little past "shut off" when the switch roller drops into the cam groove, machine will restart unless adequate space is adjusted in the cam groove to give approximately three seconds from start until cam activates micro switch. See "cam adjustments".

   d. Should micro switch fail to respond when switch roller is in the bottom of the cam groove, proceed as follows to bend wiper arm of micro switch. Insert small screwdriver blade behind wiper arm and up near hinge point at top. Hold another screwdriver against roller arm at hinge point. Push wiper arm back to bend slightly. Care should be taken to assure wiper arm is not bent too far.

   e. If the micro switch is determined to be inoperative, replace switch by removing the small screw which holds it in place on the top of the master timer and replace with a new micro switch.

2nd Cam from Left End (Detergent)

This cam and switch controls the detergent delivery. The amount of detergent delivered is adjusted by changing the cam opening and increasing or decreasing the groove. This switch is normally off and turns on when the wiper rides down into the cam groove.

As the cam shaft turns, the cams operate micro switches that control the various mechanisms on the machine, establish the sequence of the cycle and the length of time allowed each function in the cycle. By adjustment of certain cams, the

time allowed the particular function may be changed. The following outlines the functions of each cam. They are number 1 through 7 from left to right.

MALFUNCTIONING CHARACTERISTICS

Same as Sanitizer 5th Cam

3rd Cam from Left End

This cam is set by the factory to control the drain solenoid and cannot be adjusted.

MALFUNCTIONING CHARACTERISTICS

1. Drain solenoid will not operate.

    a. Assure other factors are O.K. before considering cam switch.

    b. If all other factors are O.K., consider cam switch the same as 5th cam, paragraph c.

2. Same as 4th cam a & b.

4th Cam from Left End

This cam and switch controls the electro water valve. It is normally closed and turns on when it rides to the bottom of the cam groove. The longer the wiper switch roller rides in the bottom of the cam groove; the longer the water valve is open and the more the water is delivered to the machine. The lower the incoming water pressure, the wider the cam opening must be to get the proper amount of water in the machine. The cam is set in the factory so that the water valve opens about the same time the drain solenoid opens to give the water flushing action desired. To make the gap wider, move the backside of the cam which will have the effect of allowing more water to enter the machine. To reduce water volume, close up the gap by moving the backside of the cam forward. Adjust the cam so the water level is 1 inch over the bottom of the pan or approximately 1 inch up on the bottom spray arm base. (Use the pan weld seam as a reference.)

MALFUNCTIONING CHARACTERISTICS

1. Water will not come into the machine.

    a. With amp meter check out the proper function of the #4

micro switch to insure that energy is being sent to the coil on the solenoid fill valve.

b. If energy is being sent to the fill valve, remove the coil and place a screwdriver bit inside the coil and press the fill switch.

CAUTION:

Do not press the fill switch without a screwdriver bit placed inside the solenoid coil as it will burn it out in seconds. If the electrical energy converts the coil to a magnet, the screwdriver will respond appropriately. Next, remove the drain solenoid cap and inspect the diaphragm to see if a foreign particle has lodged into the bleed hold located in the diaphragm. This will prevent the diaphragm from functioning properly.

2. Water will not shut off.

a. Assure electrical checks are made before considering the cam switch.

b. If cam switch is the problem, proceed as under 5th cam, paragraph c.

5th Cam from Left End

The micro switch is normally shut off and only turns on when the roller rides into the cam groove. This occurs two seconds after the drain solenoid closes and then an electric motor pump automatically starts pumping sanitizer into the rinse water.

MALFUNCTIONING CHARACTERISTICS

1. Sanitizer will not feed into machine.

a. Remove the control panel cover to monitor if the peristaltic pump is running when the #5 micro switch drops into the groove. If the pump is functioning, check the squeeze tube to see if it is worn out or cracked. If so, replace it.

b. If the pump is rotating and the tube seems to be intact, take a small strip of shim stock (3/8" strip of a standard calling card will do) and insert it between the peristaltic pump housing and the squeeze

tube itself. Many times the shim effort will cause the pump to prime and operate normally.

c. If the chemical pump motor is not operating, use the amp meter to determine if electrical energy is sent to the pump from the #5 micro switch. If so, you can check to see if the pump operates by disconnecting the two spade plugs and substituting them with #6 spade plugs to see if energy from the #6 cam will turn the pump. If not, the pump may be burned out and should be replaced.

d. Increase the amount of chlorine delivered by the pump by opening the back side of the #5 groove.

6th Cam from Left End

The micro switch is normally off and only turns on when the roller rides into the cam groove. This occurs at approximately the same time as the sanitizer pump is activated and then an electric motor pump automatically starts pumping rinse additive fluid into the rinse water.

MALFUNCTIONING CHARACTERISTICS

Same as sanitizer #5 cam.

7th Cam from Left End

The 7th cam is spare circuit to back up any functions in the master timer train. The adjustment for the #7 cam is the same as #2, 5 and 6 cams. The trouble shooting is the same as the #5 and 6 cams.

CAM ADJUSTMENT PROCEDURE

All cams are adjustable except the 1st and 3rd cams. However, unless certain special circumstances exist (see each cam heading), do not change the front side of the groove. Only adjust the back side which controls the length of time the electrical function is maintained. Please note that of the seven micro switch functions, the electrical spades are connected to the top and bottom lugs of each micro switch with the exception of the #1 micro switch. This micro switch is connected to the top and middle function which reverses the polarity of the switch and causes it to energize when it walks up out of the groove thus creating a "start/stop" function on the master time chain. Three of the cam functions (#2, 5 and 6) control the three chemical injectors. To increase the amount of chemicals delivered, always move the back side of

the groove. The front side is the "start" function of the switch and does not need to be activated once properly set. All the adjustments are at the back side of the cam groove. #1 and #3 cams are factory set and do not require adjustment.

MICRO SWITCH REPLACEMENT (MASTER TIMER ASSEMBLY)

Each micro switch has three space lugs. All connect to the top and bottom, except #1, which is connected to the top and middle spade lug. This makes the #1 switch operate when the wiper arm rides up out of the groove.

Replacement Procedures for Cam Assembly

1. Turn off master switch.

2. Remove Phillips screw which holds micro assembly in place.

3. Pull out micro switch.

4. Re-install, reverse removal procedures and add the following:

   a. Assure all connections are tight; loose connections can cause arcing and damage.

   b. Run machine through cycle and check chemical delivery and water level, adjust as required.

SECTION II - Pump Assembly

GENERAL

The pump picks up water from the drain sump and forces it to the spray nozzles with a volume of 68 gallons per minute and a pressure at the nozzles of approximately 7 psi. As the water falls back into the pan after the spray action, it runs down the pan to the sump, through the screen and again to the pump.

The pump is driven by a 115 volt, 3/4 HP motor at 3450 RPM.

The impeller is an open face type so that foreign material will have a hard time clogging the veins of the impeller.

The impeller is mounted with a right hand thread onto a 5/8" stainless steel shaft. The shaft in turn is coupled to the motor armature shaft. Should motor change be necessary, exchange the motor, the base, the seal support casting, and the seal as an assembly. See motor replacement.

The water is held in the pump by a bellows type seal, mounted half in the casting and half on the shaft. A porcelain ring in the casting rides on a carbon ring mounted on the shaft to make a good seal.

MALFUNCTIONING CHARACTERISTICS

1. Water leaking around pump

    a. Seal leaking and needs replacement. When this happens, water comes out around the shaft. See Preventive Maintenance, Section III.

    b. Gasket, pump bad and is leaking.

    c. Copper gaskets around bolts bad and need replacement.

2. Loud howling noise around pump

    a. Some foreign matter in impeller, disassemble pump and clean out. See below.

3. Pump stops after running a short time.

4. Pump will not start.

5. Pump will not stop.

REPLACEMENT PROCEDURES

1. Removing old seal. Inspecting porcelain.

    a. Turn off master switch.

    b. Remove four pump mounting bolts.

    c. Separate pump housing from seal support casting. Sometimes gasket and flanges stick tightly, requiring wedge to be inserted. Insert at bolt hole position only. If flange should be slightly sprung, bolts will pull together at assembly. Do not mar flange surfaces; otherwise, gasket cannot seal against leaks.

    d. Push motor and seal casting back away from housing and turn so impeller is facing you.

    e. Remove cap from the opposite end of the motor and insert large blade screwdriver in the slot of the motor shaft to keep shaft from turning.

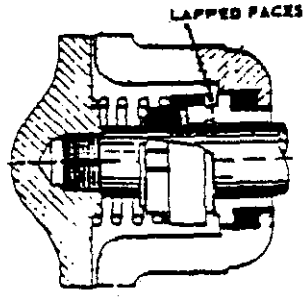
f. Turn impeller anti-clockwise and unscrew from shaft. It may be necessary to tap a vein of the impeller with a punch and hammer if it will not break loose with turning pressure.

g. Remove impeller and observe size and position of washer on shaft behind impeller so they may be reinstalled in the same position.

h. Reach in and pull out front part of pump shaft seal. It may be stuck on the shaft and require pressure with a small blade screwdriver.

i. Remove part of old seal that turns with the impeller and clean assembly with a soft rag.

j. Inspect porcelain with flashlight for cracks or chips. A crack or chip in the porcelain will cause excessive wear on the graphite. If cracks or chips are observed, replace porcelain ring. Inspect porcelain to make sure that the porcelain and rubber seat cup is not cocked in the casting.



2. If porcelain is not at right angles to the impeller shaft, it will cause the bellows to flex with every revolution of the impeller shaft. Pump seal bellows will last only a short time under these conditions. Inspect procelain and rubber seat cup to make certain that both pieces are all the way to the bottom of the cavity in casting. If the porcelain does not bottom in the casting, this will cause excessive wear on the graphite by too much tension. If porcelain is grooved, which is unlikely due to its hardness, replace.

3. Installing Type 21 Seal. Seal replacements are normally completed in the shop on the bench. The following procedure should be carefully followed:

   a. Remove old graphite from Seal Head.

   b. Remove old bellows from Seal Head.

   c. Install new bellows and graphite exactly as in old seal.

   d. Seal will be destroyed on installation if impeller shaft, in space where seal slides into work position, is full of gum and other deposits. Clean shaft from porcelain to threads with steel wool, SOS pad or very fine emery paper. (Give the seal a smooth, clean, well-lubricated surface to slide on). This is important.

   e. Place thread protector over threaded portion of impeller shaft. Thread protector is necessary to prevent the cutting of the bellows on shoulder of impeller shaft. Thread protectors are available from the home office.

f. It is most important that the bellows and the impeller shaft be lubricated so that bellows will slide on shaft without wrinkling or distorting bellows. The bellows actually grip the shaft and turn the graphite, therefore, it is necessary to use the correct lubricant. Do not use oil or silicone fluid as they may attack the bellows chemically. The spring cannot drive the bellows and graphite. Dip assembled portion of Pump Seal, Seal Head in a soap solution. As pictured below, use sleeve to push Seal Head into running position.

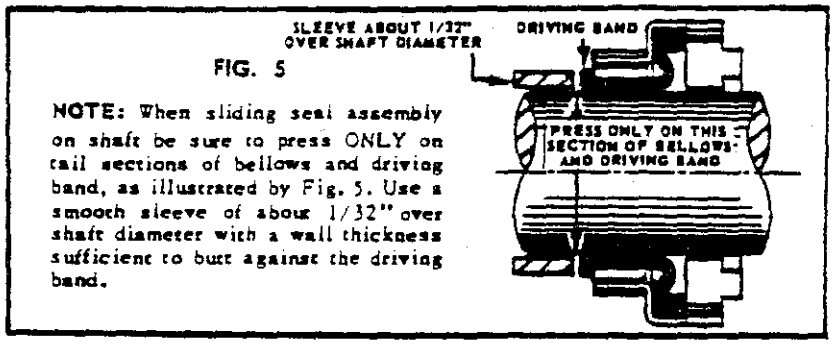


FIG. 5

NOTE: When sliding seal assembly on shaft be sure to press ONLY on tail sections of bellows and driving band, as illustrated by Fig. 5. Use a smooth sleeve of about 1/32" over shaft diameter with a wall thickness sufficient to butt against the driving band.

NOTE: A machined sleeve for pressing Seal Head into position which acts as a "thread protector" is available from the home office.

g. Place spring in position and install impeller.

4. Check the pump for proper pressure. Due to long seal life, the impeller may become clogged with broken pieces of glass, prune seeds and toothpicks as the machine operator may run the machine without strainer screen in place.

a. When you have pump apart, inspect impeller for clogging. This is important. Use an old ice pick bent in a curve to fit curvature of volutes of impeller. It is impossible to observe stoppage of cavity by sight.

Delivery of pump may be checked without taking pump apart to manually inspect impeller. This is done with a pressure gauge.

Equipment required to check pump delivery:

A pressure test kit assembly is available from CMA headquarters. It consists of a pressure gauge connected to a tubing which is fastened to an end plug assembly. To run a pressure test simply remove one of the end plugs and screw in the adaptor end of the test kit assembly, hold the pressure gauge in your hand and close the doors and activate the dishwasher. The machine should run at 7# (without chemicals). Detergents, depending on temperature, will cause the pressure to drop due to aeration of suds. Therefore, all pressure tests should be run with clear water.

Pressure LESS than 7 psi will mean one of the following is affecting pump pressure:

(1) NOT ENOUGH WATER

(2) IMPELLER STOPPED

(3) EXCESSIVE WEAR ON SPRAY JETS

b. If not enough water is in machine, gauge will fluctuate wildly, dropping as low as three (3) psi, then increasing momentarily to 5 - 7 psi.

   (1) Add water to pan until pressure remains steady without fluctuation. This is the correct water level for machine. Increase water on Black Cam of Timer.

c. If impeller is plugged with trash, increasing or decreasing water level will not affect reading on pressure gauge. The hand on the gauge will remain steady. The gauge reading will be less than the 7 psi depending on the degree of stoppage.

d. If the spray arms have been used for a long time, the holes in the jets will wear allowing more water to flow through each jet, thus reducing pressure. The machine will take more water and thus more chemicals.

e. The spray arm jets are designed to produce a fan-shaped pattern of water and each jet has a definite area to cover. As the holes wear round in shape, you get a round stream of water from each jet and a very poor spray pattern.

(1) If by visible inspection, wear on jets is observed, replace with new arms and inspect difference on pressure gauge.

SECTION III - Vacuum Breaker Valve

GENERAL

The vacuum breaker valve is a standard plumbing code requirement for any unit that is hooked to a portable water line and generates waste water in its operation. It must be installed above the highest point where wash or waste water could be at any time.

The vacuum breaker valve prevents waste water in the unit from being sucked into the water line should an occasion arise wherein the main water supply line should develop a vacuum.

The vacuum breaker valve has a poppet float inside that through gravity rides in the down position when no water pressure is on the valve. In this position, it opens the line so that air can be drawn in through the sides of the cover.

By this means, no vacuum is developed on the line to the wash water and wash water could not enter the water line.

If water pressure is applied, the poppet floats up immediately and closes the opening to the cover and prevents water from coming out of the air holes.

MALFUNCTIONING CHARACTERISTICS

1. Water leaks out air vent holes or around cover when pressure is applied.

   a. Poppet gasket eroded, needs replacing

   b. Poppet float corroded, needs deliming or replacement

   c. Cover gasket bad, replace

   d. Low water pressure

REPLACEMENT PROCEDURES

1. Poppet gasket

   a. Remove two small nuts on top of cap. Lift cap off and unscrew brass nut with crescent wrench. If hard to release, use wrench also on lower part to prevent damage to plumbing.

   b. Lift poppet float out and inspect float and gasket.

   c. If poppet is deformed in any way, replace entire assembly and gasket.

   d. Inspect cover gasket and assure it is in good condition. They crack very easily and replace if needed. Be sure all of the old one is removed and surface on body and cover are clean.

   e. Install poppet on cover pin and screw cover in place.

   f. Check under water pressure by operating fill switch several times to assure no leaks.

SECTION IV - Water Solenoid Valve 1/2" Asco

GENERAL

The valve is an electro-magnetic type that includes a design feature that is made to close the valve slowly so that a surge or pounding action in the water is eliminated. As the 115 volt current is applied to the coil, it draws the metal plunger into the coil, releasing the water pressure on the back side of the diaphragm and the water pressure from the line pushes the diaphragm up and the water enters the line to the pump. When the current going to the coil is shut off, the plunger again seats on the orifice of the diaphragm and water is slowly trapped on the back side of the diaphragm and slowly the diaphragm closes to shut off the water flow to the pump.

MALFUNCTIONING CHARACTERISTICS

1. Water will not shut off

   a. Diaphragm is defective, needs replacement

b. Rubber in end of plunger is bad. Replace plunger.

2. Valve does not shut off smoothly and quietly, allows water to surge or pound

   a. Diaphragm is defective and needs replacement

   b. Rubber in end of plunger is bad. Replace plunger

3. Valve does not operate

   a. Check current supply to coil. If supply is okay, coil is defective. Replace coil.

   b. Plunger stuck in down position. Determine reason and replace if needed

      Note: Should the water pressure be greater than 60#, it is suggested that a water pressure regulator be installed to prolong the life of the internal parts of the valve.

REPLACEMENT PROCEDURES (Plunger and Diaphragm)

1. Open red snap cap with fingernail or edge of screwdriver and remove coil as a unit.

2. Shut off water with gate valve.

3. Remove four bolts holding solenoid cap in place. A small amount of water will drain out when cap is removed.

4. Plunger rides in hollow stainless steel tube in the center of the cap with spring part up so small rubber in other end of plunger can seat on the small metal orifice in the center of the diaphragm. Inspect this small rubber in the plunger end. If it is protruding and would not make a good seat, entire plunger must be replaced.

5. The diaphragm kit provides a new rubber ring which should be installed with new diaphragm to assure good water seal.

6. Wet rubber ring and press in place with fingers. Assure it is down in groove around entire valve.

7. Install new diaphragm with small orifice in center extending up.

8. Put plunger in cap with spring to top side and bolt cap on housing.

9. Reverse balance of disassembling procedure.

10. Assure cap does not leak and valve operates smoothly.

SECTION V - Water Flow Control Valve (3 1/2 gallon) (Gate Valve)

GENERAL

This valve is installed in the hot water supply line directly ahead of the solenoid water valve and has several functions as follows:

1. It is designed to maintain a flow of 3 1/2 gallons of water per minute to the machine regardless of water flow pressure fluctuations.

2. Where self pump and well water systems are encountered, often times you will find the pressures will sometimes be so low, not enough water comes into the machine during the fill cycle, therefore, very poor dishwashing results. The water flow valve is rarely used, as most fluctuating pressure can be compensated for with the #4 cam. (Fill Flush)

   Under these conditions, you may set the fill cam for this low pressure but have entirely too much water at the high pressure point. This same condition can be found in an old restaurant water system that is all stopped up such that the flow pressure is low to start with, but when someone flushes a toilet or turns on a faucet someplace, the pressure goes very low.

   To handle this problem, consider the following:

   a. Install a 3 1/2 gallon per minute flow control valve. This unit acts as a compensator and will hold the flow to 3 1/2 gallons per minute, regardless of the pressure in the incoming line.

3. Adjust water valve cam to give proper water level. This means the valve will be held open longer.

4. In most cases, when this is done, it is necessary to change the timer to a 2 1/2 minute cycle to give more time for the water to get into the machine. In this

case, the maximum opening of the water control cam would be needed.

5. Cam setting for water valve:

   With the flow control in place, the cam should be opened considerably to provide the proper water level. Also, the right hand cam should be moved ahead so the water valve opens sooner to allow purging and flushing of the machine a little faster.

6. Maintenance and Malfunctioning

   It is presently considered that the only problem that may arise is a buildup of mineral deposits within the orifices in the valve center section. This would be indicated by a reduction of the water level during the cycle. If hard water is used, check for deposits in six months, otherwise every twelve months.

7. Removal of Mineral Deposits

   Assure manual water valve is turned off. The valve may be taken apart by unscrewing the seat from the body and using some instrument carefully to remove the deposited minerals.

SECTION VI - Anti-foam Valves

GENERAL

The anti-foam valve is designed to prevent water from being drawn through the vacuum breaker and introduced into the pump while the pump is running. It is in fact a one-way check valve. When water is introduced through the vacuum breaker, it overcomes the relief valve, sends water into the pump assembly to purge soiled water from the manifold system. If the spring-loaded poppet seat (depending on design of the bracket) fails, a common symptom is a rapid drop of pressure in the rinse arm. This is especially true if the pressure seems good for 4 or 5 seconds and suddenly drops off to 2 or 3#. Another characteristic will be excessive suds caused by air being introduced into the high speed motor while it is running, causing the detergent to aerate. Thus it is called an anti-foam valve main pump.

MALFUNCTIONING CHARACTERISTICS

1. Loss of manifold wash pressure

    a. The spring has failed, allowing air to enter the pump. Replace spring.

2. Excessive foaming action is apparent during washing cycle.

    a. Ball is defective and not seating properly. Clean mineral deposits from around area ball seats. Check spring. Replace valve.

SECTION VII - Counter, Tray

A standard digit counter is installed inside timer box assembly. Each time the cam shaft makes one revolution, the counter adds one to the total recorded. The total figure on the counter indicates the total number of cycles the machine has run. The difference between service periods indicates the number of trays run during the period.

MALFUNCTIONING CHARACTERISTICS

1. Counter does not register.

    a. Counter is wired to the chlorine micro switch cam (#5). If counter is not functioning, check chlorine cam to see that micro switch operates properly. If it is not, replace switch. If it is, check wire. If wire is secure, change counter.

REPLACEMENT PROCEDURE

1. Remove two small mounting screws from inside of timer box.

2. Replace by reversing procedure.

3. Record reading of old counter and advise office, noting change made.

SECTION VIII - Mercury Relay

To increase the service life of the manual start switch and the cam micro switch, the starting load of the pump motor is controlled by an electro magnetic solenoid type switch which is called a relay. Many relays are made such that large

silver-plated points are drawn together by the magnetic coil to make the circuit and start the device. When these points come together due to the current load, they will arc. The points are silver-plated to reduce this arc and burning that is normal for this type of action. However, after many operations, the silver burns through and the points become defective and cause trouble. To reduce this problem as much as possible, we have incorporated a relay that uses mercury in a vacuum tube to make and break the pump motor circuit. Mercury operating in a vacuum does not have a tendency to burn or deteriorate.

When the 110 volt current is supplied from the start switch or the cam switch to the relay coil, a magnetic field is developed in the coil which draws the metal core, which is floating on the mercury in the ceramic center tube, downward. As the core is drawn downward, the mercury in the tube is displaced and caused to move up in the tube and make contact with the exposed wire terminal in the tube. The mercury then acts as a conductor of the current and the pump motor starts. It will continue to operate until the current to the coil of the relay is cut off and the core returns to the up position, allowing the mercury to also again change position and break contact with the wire terminal and the motor stops.

MALFUNCTIONING CHARACTERISTICS

1. Pump will not stop running.

    a. Tap coil lightly with wood end of screwdriver. If motor immediately shuts off, the center core of mercury relay is sticking in the down position. Relay should be changed.

    b. If the motor does not stop from the action in "a" above, use an amp meter to determine if the #1 micro switch de-activates as the wiper arm drops down into the #1 cam groove. If the #1 micro switch does not disrupt current to the mercury relay coil, it is defective and should be replaced.

    c. If b does not correct trouble and the leads going to the coil around the mercury relay check out with an amp meter as not being active, you can assume the mercury relay is shorting out or stuck and should be replaced.

2. Pump will not start

a. Check all electrical wires to the #1 micro relay switch and mercury relay contacts. Using an amp meter, check to see if energy is being transmitted through the #1 micro switch to the mercury relay coil. If not, the #1 micro switch is defective and should be replaced.

b. If energy is being transmitted to the mercury relay coil, using the handle of a screwdriver, tap side of mercury relay column to see if it will start. If it does, it is sticking and should be changed. Using the amp meter, check the current on the lead wires coming from the top of the mercury relay to see if they have been energized. If they have, trace them to the pump. If energy is going to the pump starting coils and it fails to operate, the pump is defective and should be changed out.

REPLACEMENT PROCEDURE

1. Shut off master switch

2. Disconnect coil wires at ground terminal block and cam terminal block

3. Disconnect motor wire and cam terminal block wire

4. Remove screws holding aluminum mounting bracket to control box and remove entire bracket relay.

5. Reverse removal procedure and check for operation. Assure all connections are tight. Loose connections cause arcing and heating.

SECTION IX - Motor, Pump

The motor is a capacitor type, 3/4 HP and turns 3450 RPM. It develops a 10 amp load at starting and operates on 115 volt, 60 cycle AC current. It is equipped with an internal thermal overload switch that automatically kicks out if the motor overheats. Monitor the air vents to see if they are clear of dust and debris. This allows air to circulate over the motor to properly cool it.

The bearings are sealed and do not need lubrication. A ball thrust bearing is on the pump end and a sleeve on the other.

MALFUNCTIONING CHARACTERISTICS

1. Motor will not start

    a. If motor is hot to the touch, apparently the safety switch has kicked out. Safety switch will kick in automatically when motor cools. Clean out vent holes with motor stopped. Be sure and turn off the master switch prior to cleaning the vent veins.

REPLACEMENT PROCEDURES

1. Turn off master switch

2. Remove bolts in motor base

3. Remove bolts securing pump mount to pump cover

4. Disconnect wires in make up box on motor

5. Disconnect conduit from make up box

6. Separate pump mount from pump cover, being careful not to scar joining surfaces

7. Remove gasket

8. Replace gasket

9. Install replacement unit

SECTION X - Asco 1" Solenoid, Drain

Same characteristics as the fill solenoid, other than when the solenoid coil is energized the diaphragm opens for drain rather than fill. Same service procedure.

MALFUNCTIONING CHARACTERISTICS

Machine will not drain, or drains continuously. Check that coil is energized; bad coil or bad diaphragm. Diaghragm may be good. There may be debris on diaphragm on seat.

REPLACEMENT PROCEDURES (Plunger and diaphragm)

1. Turn off master switch

    a. Same replacement procedure as water fill solenoid.

SECTION XI - Start and Fill Switch (Rocker bar)

The start switch is of a special design and is a momentary contact type which is normally open. The rocker switch is designed to prevent overstress by the operator in that the plastic housing of the rocker bar bottoms out against the base of the switch. It's designed to keep water and foreign materials from entering the contact chamber. The start load on the contacts is small thus reducing exposure to burning the contact points, causing deterioration of the switch.

MALFUNCTIONING CHARACTERISTICS

1. Machine will not stop running

    a. Shut off master switch and using an amp probe, determine if the start function sends energy to the #1 micro switch. Push the rocker switch to the opposite position to monitor if the fill function is functioning. If you determine that the switch is not working, replace.

2. Machine will not start

    a. Insure the master switch is on the check the circuit breaker panel to the dishwasher to determine if the circuit breaker is blown.

    b. Using an amp meter, trace the current through the switch to see if it is functioning. If not, replace.

REPLACEMENT PROCEDURES

1. Turn off master switch

2. Disconnect spade lugs from the inside of the switch and remove switch

3. To re-install, snap a new rocker switch in place. Connect the spade lugs to the proper terminals and test for proper function.

SECTION XII - Line or Master Switch

This is a toggle type, double pole switch. It is used to cut off both the ground and hot wires coming from the wall outlet. The dual pull switch allows the operator to turn off both sides of the circuit.

MALFUNCTIONING CHARACTERISTICS

1. Machine will not start

    a. Check the panel box to insure that the circuit breaker has not been tripped

    b. Using an amp meter, determine if the current is supplied to the master switch. If not, check for a bad circuit breaker. (This may involve calling in an electrician.)

    c. Turn master switch on and trace with an amp probe to confirm that current is passing through the switch.

REPLACEMENT PROCEDURES

1. Turn off breaker

2. Remove control panel cover

3. Remove master switch by removing the screws

4. Disconnect wires. Note which wires are fastened to each terminal. Replace switch and control panel cover.

SECTION XIII - Fill Start Rocker Switch

MALFUNCTIONING CHARACTERISTICS

1. Water will not come into machine when fill button is tripped

    a. Turn off master switch and check action of the rocker switch. It should retain its spring-loaded center position.

    b. Turn the master switch on and using an amp probe, check to see if it sends electrical energy to the #4 micro switch which, in turn, controls the the Asco 1/2" fill solenoid valve.

SECTION XIV - Door Assembly

The door is connected by two pins that protrude from the base of the door. The pins rest on two ell shaped adjustable support brackets mounted to the sides of the frame. There are

two springs connected from the base of the door to the base of the frame which allow the door to function smoothly.

MALFUNCTIONING CHARACTERISTICS

1. Water leaking from door

   a. Inspect door seal gasket for wear or debris:

      Gasket removal: remove screws holding gasket side strips in place.

   b. Adjust door supports

      Note: These may be tack welded. Brake weld with hammer and screwdriver. Loosen nuts and adjust in or out and tighten securely.

   c. Adjust door handle latch

      Open door and remove eight screws that fasten inner skin. Latch hardware is accessible when inner skin has been removed. Latch location on handle shaft can be adjusted by loosening lock nuts and washers on either side of latch.

REPLACEMENT PROCEDURES

Remove side panels (screws in back at top and bottom), disconnect springs at base of door, lift door pins out of support brackets. Reverse procedure for assembly. Check for adjustment before installing side panels.

SECTION XV - Spray Arm Assembly

The spray arms are made of round stainless steel tubes with stainless steel jets welded in place. The jets sit straight up and are spaced to give coverage of all dish surfaces as the arms swing around. On each spray arm there are two spray jets that are angled. These spray jets are angled to propel or push the spray arm at the rate of 60 rpm. In the event one of these jets is clogged, the spray arm may not turn.

Removable plugs are provided at each end of the spray arm. Each plug can be removed by two methods:

1. Using a pair of pliers or wrench

2. The slot is designed to be used with the back of a butter knife, screwdriver or on the lip of the tables attached to the dishwasher.

MALFUNCTIONING CHARACTERISTICS

1. Spray arm not turning

   a. Remove arm and inspect for clogged jets

   b. Inspect spray arm bushings for wear or damage.

2. Dishes not getting clean

   a. Follow procedures for 1 above

3. Dishes not getting rinsed

   a. Follow procedure for 1 above

4. After many years of use, the eye inside diameter of the spray jets sometimes wear and become larger. Using the pressure test assembly, monitor the pressure available at the end of the spray arm. If it drops below 5#, the spray arm assembly should be changed.

   NOTE: Do not check pressure with chemicals in the wash or rinse solution. Pressure checks should be handled only with clear water.

REPLACEMENT PROCEDURES

1. Upper srpay arm

   Remove retaining loop and washer. Take hold of the arm at the center casting and pull down.

2. Lower spray arm

   Take hold of the arm at the center casting and pull up.

3. Install

   Reverse procedure.

   NOTE: Lower spray arm has extra spray tip.

SECTION XVI - Bushings, Spray Arm

White spray arm bushing, top side of center casting or same side as tips. Black spray arm bushing has reverse thread, install opposite end of center casting.

MALFUNCTIONING CHARACTERISTICS

1. Spray arms will not turn

    a. Remove arm and inspect both black and white bushings for wear or debris around shaft that bushing spins on.

    b. White bushings have two small holes to keep spray arm from lifting and starving the arm preventing it from turning. Check, may be clogged.

    c. Inspect bushing shaft on manifold. The surface the bushing rides on may be excessively warm.

SECTION XVII - Chemical Pumps

Peristaltic pumps are used to dispense chemicals. One rotation of the roller across the squeeze tube dispenses approximately 1 cc of liquid chemical into the sump. A prime switch has been provided with each chemical pump to enable the serviceman to prime the pump system. To prime the peristaltic pumps, remove the front control cover panel located at the bottom of the machine, then open the door of the machine to observe the three chemical discharge tubes located adjacent to the pump cavity. Push the toggle switch above each peristaltic pump to the "on" position. When primed, one can observe the dispensing of the chemicals into the sump. Count the "pulses" of each discharge to ensure smooth uninterrupted delivery.

With the control panel off, the rotation of each chemical pump can be observed and counted. This allows the serviceman to accurately adjust the amount of chemical delivered from each pump through its on/off mode. The Li'l Mizer uses minimum water, about 1 1/2 gallons. Normal setting for chemical pumps will be 3-5 pulses for detergent, 2-3 pulses for wetting agent and 3-5 pulses per sanitizer. Check rinse water at end of cycle with appropriate field test kit for proper ppm of chlorine to ensure compliance with health code requirements. After setting the chemical cams, fill in machine and run through a complete cycle.

SECTION XVII - Operation of Machine

Don't fee me garbage! The undercounter Li'l Mizer dishwasher is unique in its field. It has all the features of a standard, commercial size dishwasher with many interchangeable parts used in its big "cousin" manufactured by Chemical Methods. The major source of potential problems will be faulty pre-scrapping. This dishwasher drains itself by pumping the soiled water out of the machine during the middle of the cycle through the drain solenoid. It is equipped with a removable scrap tray. It is very important that the machine is not run without the scrap tray in place in that debris can easily get down into the pump impeller or hang up the drain valve creating a trouble call. It is important that the operator be thoroughly trained in the importance of pre-scrapping the dishes and emphasize to the operator that he cannot operate the dishwasher without the scrap tray inside. If he does, it may require a time consuming trouble call to remove the pump and check the impeller for debris. Standard racking procedures for tableware should be followed. It is important that the machine should be installed only where hot, soft water is provided by the customer. (CMA has perfected a small undercounter hot water softener for those accounts which require it.)

Operating control. The machine is equipped with two rocker control switches and a light. The rocker control switches are labeled "drain" and "fill/start" (Illustration II). The fill switch is used to fill the machine for the first cycle. After that the machine will automatically fill, drain, purge and dispense chemicals during a normal cycle. The machine should be filled one inch over the entire bottom of the pan or one inch up on the spray arm base (use the pan weld seam as a reference). By listening to the normal pumping sound of the motor, the serviceman can determine if there is insufficient water in the machine, as you will hear a hesitation in the normal washing rhythm created by the pump sucking air due to water starvation. Cam #4 is used to adjust the amount of water automatically fed into the machine. At the end of the day when the machine is to be shut down, the operator should first press the drain switch which activates the main pump motor and at the same time opens the drain solenoid valve which allows the water to be pumped out of the machine. Once the water has been pumped out, the strainer should be removed and cleaned out and made ready for the next day's operation.

Overfilling "a problem". The #4 cam controls the amount of water delivered to the machine during each cycle. If the account has widely varying water pressure during the day, it may be necessary to install a pressure regulator to control

the flow. Remember the drain time is set at the factory; therefore, it is the water "quantity" which is adjustable. To start the machine. The start switch is depressed once the sump has been filled. This switch has to be held in place for approximately 2 seconds for the automatic run mode to activate. The light on the front of the machine is tied into the cam train and will tell the operator when the machine is in cycle. It shuts off at the end of each cycle. To minimize maintenance calls relating to results, insist that the customer provide hot, soft water. The Li'l Mizer is unlike any other standard, commercial dishwasher and trouble calls with regard to "clean dishes" will be all but eliminated if careful attention is paid to this recommendation.

SECTION XVIII - Installation Instructions

1. Water line

   The machine is equipped with 1/2" standard gate valve. A hot water line should be plumbed to this point.

2. Drain

   The drain cam accommodates both the overflow and discharge line. If a common line is used, the overflow connect must be far enough downstream to insure that the normal drain discharge will not back up in the overflow line. 20-30 inches is recommended. The standard 1 1/4" copper PVC, or in some cases if the code approves, 7/8" rubber drain lines can be installed. If a rubber drain line is used, insert a 3/4" x 1" long piece of copper pipe into the hose at the end that attaches to drain fitting on dish-machine. This will allow compression fitting to seal against hose. If the option existed, the machine should hook to floor drain. The drain connection should not be above the overflow point of the dishwasher (approximately 12 1/2" from the floor). This will prevent soiled water from running back through the overflow line into the wash cavity of the dishwasher.

3. Electrical

   A clean 15 amp 110 volt 60 Hz circuit should be used to supply electrical energy to the Li'l Mizer dishwasher. Check the local electrical code to determine if hard wire or plug in cord is required. The electrical bell box bar is located in the bottom rear of the machine. It has a female plug receptacle leading to panel master switch. The control panel is designed so it can be pulled out of the machine for ease of maintenance. Three Cannon plugs

disconnect the control module from the front panel. A hanging bracket is provided to keep all electrical wires clear of the floor moisture. In the event heavy maintenance is required, this is a feature designed specifically for service accessibility. The control monitor is attached to the frame with two screws located in the front corners of the machine.

NOTE: Complete diagram is on last page of booklet.

SECTION XVIII - Marketing (Who are the customers?)

There are three broad market segments for the Li'l Mizer undercounter dishwasher. They are restaurant or food operations who are currently washing dishes by hand in a pot sink. Most of these customers will be low volume accounts, less than 1,000 racks a month. The second category is standard restaurants who simply have limited space. The Li'l Mizer equipped with an integral wash station is an ideal answer to this market. The final segment is the glass washing market. This represents a sizable potential. The Model L-2 units are ideal for the market. This unit is available with a 10-inch base extension which elevates the unit for ease of application.

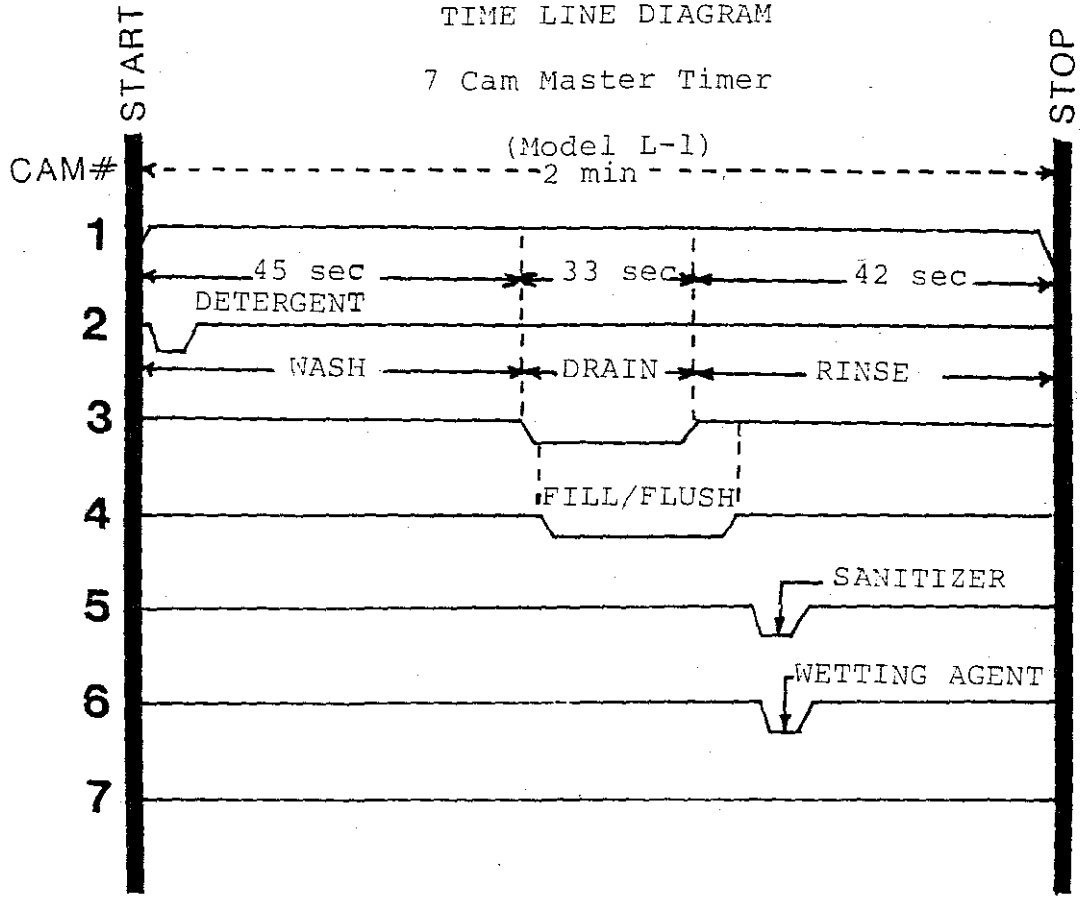
NOTE: As in all dishwashing applications, we recommend the installation of an inline hot water softener for optimum results with glassware.

ILLUSTRATION 1

TIME LINE DIAGRAM

7 Cam Master Timer

(Model L-1)



(#1 cam) Start and stops main pump motor

(#2 cam) Detergent pump

(#3 cam) Fix drain

(#4 cam) Fill and flush controls water level

(#5 cam) Chemical sanitizer pump

(#6 cam) Wetting agent pump

(#7 cam) Spare circuit

ILLUSTRATION II

Li'l Mizer (undercounter)

OPERATOR CONTROLS

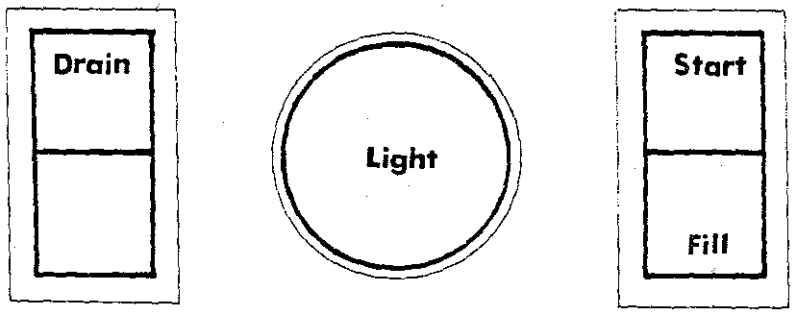
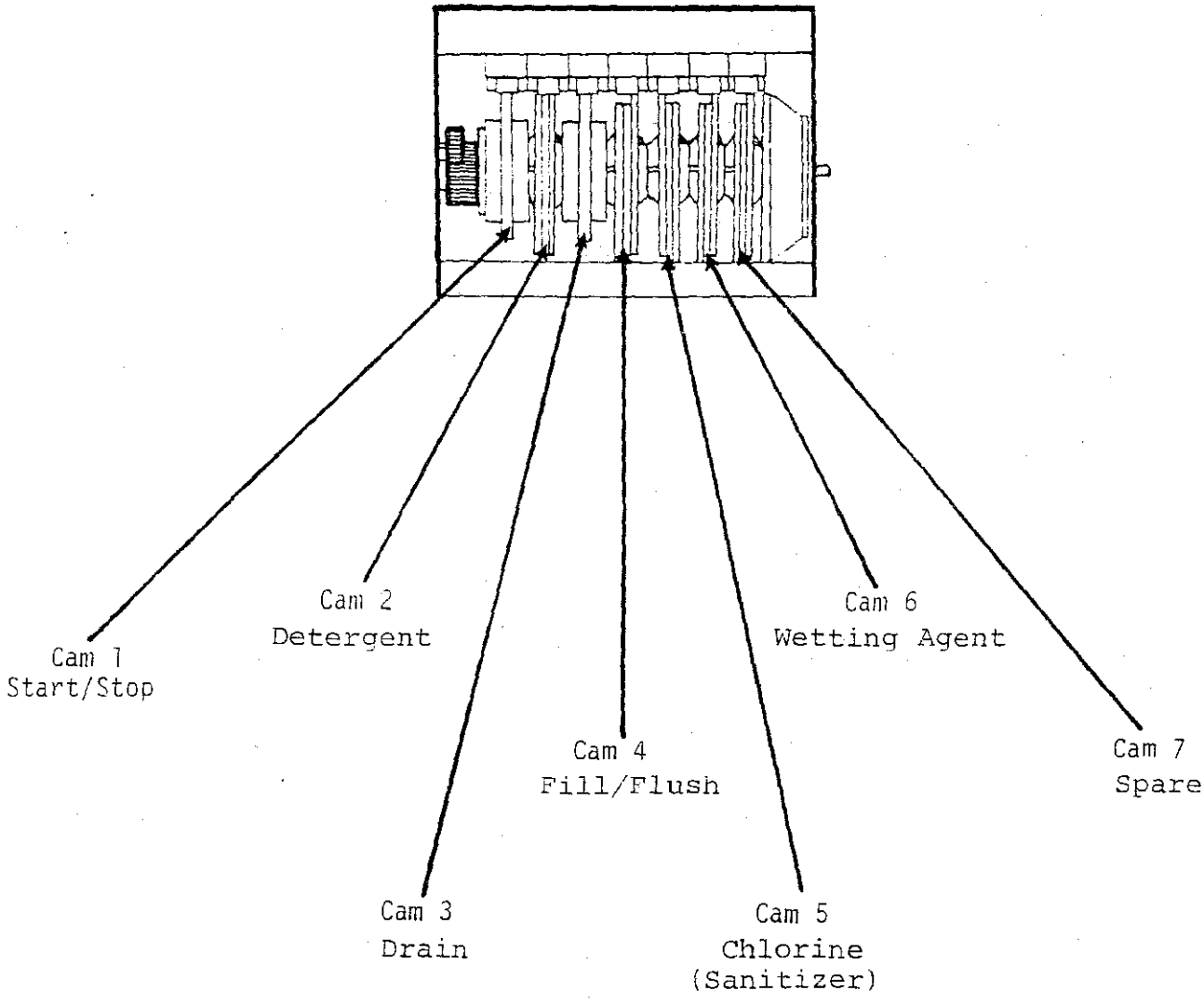
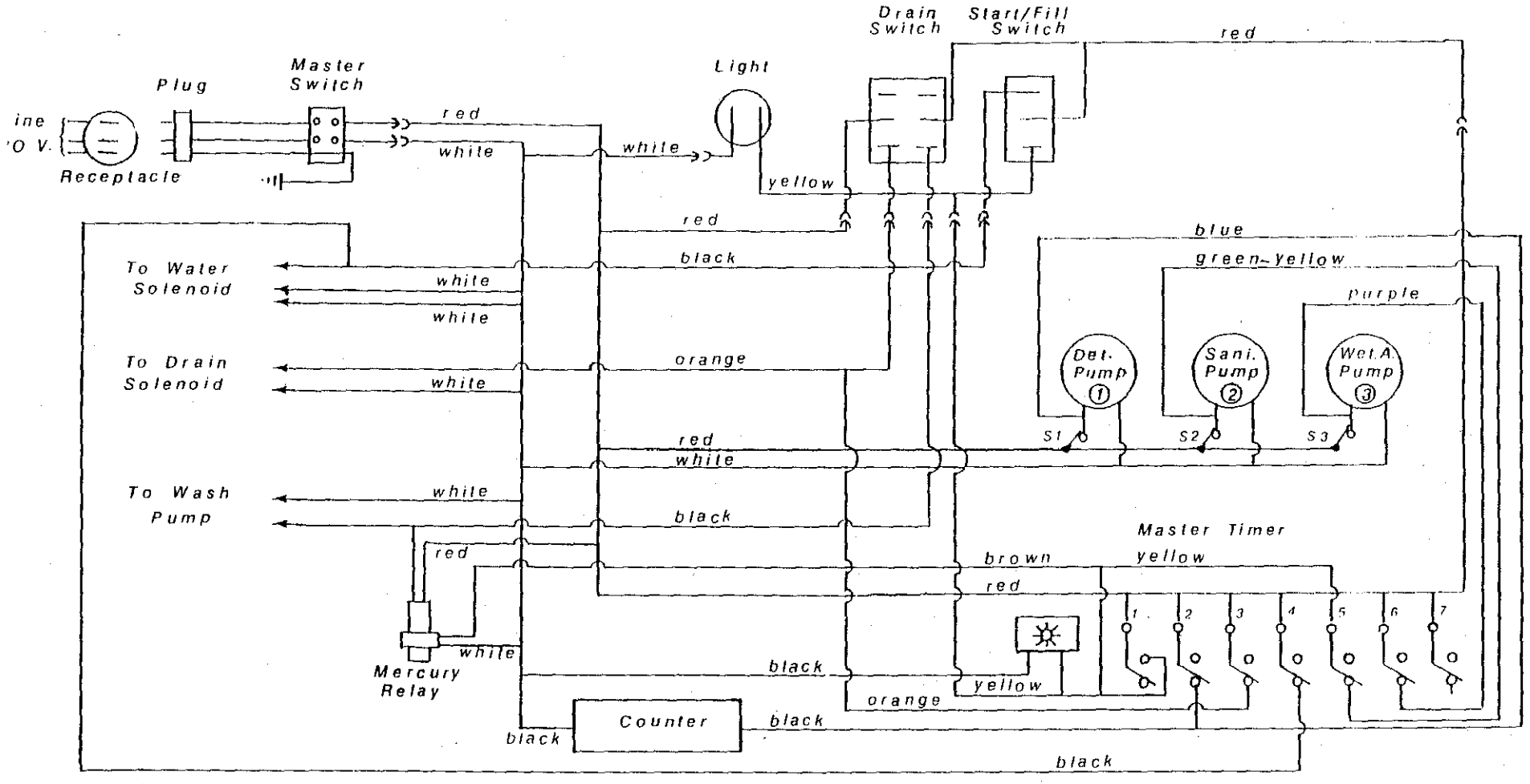


ILLUSTRATION III





Power Supply Use Minimum of 12 gauge wire Do not connect to a breaker larger than 30 amps

Supply Connection Hook up with conduit only

① ② ③ are pumps at 50 RPM S1, S2, S3 are primer pump switches

→>— = Connector block

Wiring Diagram for Model L-1(M)

TABLE OF CONTENTS

UNDERCOUNTER DISHMACHINE (L-1) Parts list

L= L-1 Model

M= L-1M Model

If undesignated the part will fit either model

INITIAL PARTS INVENTORY

Part Number	Description
03116.00	Drain Solenoid (1") Repair kit
03221.00	Water Pump Assembly (3/4H.P. Motor, Impeller, Pump Base, Pump Splash Shield, Pump "O" Ring, 3/8-16x3/4 Hex Head Bolts)
03301.00	Lower Spray Arm Bushing
03303.00	Upper Spray Arm Bushing
03305.00	Upper Spray Arm Washer
03306.00	Retaining Loop
03405.00	Fill/Drain Switch (clip on terminals)
03405.50	Fill/Drain Switch (screw on terminals)
03500.00	Door Spring
03506.00	Door Molding Seal
03612.00	Water Solenoid Valve (1/2") Repair Kit
03208.00	1-1/2" Slip Joint Washer
00208.00	1-1/2x1-1/4" Slip Joint Washer
00752.00	Hole Stopper Gasket

DRAIN ASSEMBLIES

Part Number	Description
03100.00	Drain Solenoid (L)
03100.05	Drain Solenoid (240/50) (L)
03101.00	Clamp (L)
03102.00	Drain Hose P/S (L)
03103.00	Drain Hose S/FH (L)
03104.00	Drain Flow Head (L)
03104.50	Drain Flow Head (M)
03110.00	1" Solenoid Valve-M-(120/60)
03110.05	1" Solenoid Valve-M-(240/50)
03111.00	1" Solenoid Coil (120/60) (M)
03111.05	1" Solenoid Coil (240/50) (M)
03112.00	1" Brass Street Elbow (M)
03115.00	Drain Assembly (L)
03116.00	1" Solenoid Repair Kit (M)
03118.00	Drain Assembly (M)
03200.00	Water Pump & Motor (L)
03201.00	Pump Cover (L)
03202.00	Thermometer
03202.50	Thermometer Insulation
03203.00	Impeller (L)
03207.00	1 1/2" Slip Joint Nut (M)
03208.00	1 1/2" Slip Joint Nut Washer (M)
03210.00	Pump Gasket (L)

Part Number	Description
03211.00	Pump Cover Gasket (L)
03212.00	Impeller Diffuser (L)
03220.00	Water Pump Motor 3/4 H.P. (M)
03220.50	Water Pump Motor 1/2 H.P. (M)
03221.00	Pump Assembly (M)
03222.00	Impeller 3/4 H.P. (M)
03222.50	Impeller 1/2 H.P. (M)
03223.00	Pump Cover (M)
03224.00	Pump Base (mount) (M)
03225.00	Pump Splash Shield (M)
03226.00	Pump "O" Ring (M)
03227.00	Impeller Nut (M)
00206.00	Pump Seal Kit (M)
03230.00	Pump Discharge Assembly (M)
03232.00	3/8" Male Galvanized Plug (M)
03233.00	1/4" Male Galvanized Plug (M)
03234.00	1-1/2"x1" Bushing (M)
03240.00	Pump Intake Assembly (M)

MANIFOLD ASSEMBLIES

Part Number	Description
03300.00	Manifold (L)
03301.00	Lower Spray Arm Bushing
03302.00	Lower Spray Arm
03303.00	Upper Spray Arm Bushing
03304.00	Upper Spray Arm
03305.00	Upper Spray Arm Washer
03306.00	Retaining Loop
03307.00	Manifold (M)
03308.00	Manifold Gasket
03309.00	Manifold Insert
00308.50	Spray Arm End Plug SS

CONTROL BOX ASSEMBLIES

Part Number	Description
03400.00	Wiring Harness (L)
03401.00	5 Circuit Receptacle
03402.00	9 Circuit Receptacle
03403.00	9 Circuit Plug
03404.00	Start/Fill Switch (clip on terminals)
03404.50	Start/Fill Switch (screw on terminals)
03405.00	Drain Switch (clip on terminals)
03405.50	Drain Switch (screw on terminals)
03406.00	2 Minute Timer Assembly (L)
03410.00	Primer Switch
03411.00	Crimp Terminals Female
03412.00	Crimp Terminals Male
03413.00	Regulator Relay (L)
03414.00	Start Relay (L)
03415.00	Chemical Tube Bulkhead
03415.50	Chemical Inlet Tube
03416.00	"O" Ring (chemical inlet tube)
03417.00	Dispenser Tube
03418.00	Terminal Block
03419.00	Running Light
03420.00	Bell Box
03422.00	Bell Box Cover
03425.00	Bulkhead Conversion Kit

Part Number	Description
03450.00	Wiring Harness (M)
03450.05	Wiring Harness (M) int.
03452.00	3 Wire Receptacle (M)
03452.05	3 Wire Receptacle (M) int.
03453.00	3 Wire Plug (M)
03453.05	3 Wire Plug (M) int.
03454.00	Door Wiring Harness (L)
03456.00	Machine Control Wiring Harness (M)
03457.00	Master Switch Wire (M)
03460.00	5 Circuit Male Connector
03462.00	Door Wiring Harness (M)
03462.05	Door Wiring Harnes Int. (M)
00404.00	Mercury Relay (M)
00408.00	2 Min. Timer (M)
00413.00	Counter
00415.00	Peristaltic Pump Ass.
00416.00	Peristaltic Pump Motor
00417.00	Peristaltic Pump Block
00418.00	Peristaltic Pump Cover
00420.00	Felt Pad
03465.00	Peristaltic Pump Squeeze Tube
00452.00	Spring Clip
03421.00	1/4x1/4 90 deg Plastic ELL
00419.00	Rotor Bearing Assembly

Part Number	Description
00422.00	Rotor Bearing Pins
00423.00	Rotor Bearing
00424.00	Rotor Bearing Carriage
00425.53	Chemical Tubing Red
00425.51	Chemical Tubing Blue
00425.54	Chemical Tubing White
00429.00	#187 Piggyback Connector
00430.00	#250 Female Spade Connector
00441.00	Wire Nuts
00443.00	Tube Stiffener
00448.00	Barrel Connector Male
00449.00	Lock and Key

DOOR ASSEMBLIES

Part Number	Description
03500.00	Door Spring
03501.00	Door Handle Assembly
03504.00	Heyco Snap Bushing-1000-12
03504.50	Snap Bushing Insert
03505.00	Door Handle Flange Curtain
03506.00	Door Molding Seal
03508.00	Door Lock Spacer
03510.00	Edge Protector

FRESHWATER PLUMBING ASSEMBLIES

Part Number	Description
03600.00	1/2" Gate Valve
03601.00	1/2"x1 1/2" Nipple
03602.00	1/2" Tee Strainer
03603.00	1/2" Solenoid Valve
03603.05	1/2" Solenoid Valve 240/50
03604.00	1-1/2 Nipple (L)
03605.00	1-1/2 Jamb Nut (L)
03607.00	1-1/2 Jamb Nut Washer (L)
03608.00	Filler Tube (L)
03609.00	Filler Tube 180 deg. ELL (L)
03610.00	Filler Tube 90 deg. ELL (L)
03611.00	Plumbing Assembly
03612.00	1/2" Solenoid Repair Kit
03614.00	1/2" Close Nipple
03620.00	Water Inlet Assembly
03622.00	1-1/4" Tee CxCxC (M)
03623.00	1/2" Vacuum Breaker Repair Kit (specify make)
03624.00	1/2" Vacuum Breaker (specify make)
03623.00	Tee 1/2"CX1/2"CX1/2"FIP (M)
03635.00	Plumbing Assembly (M)
03636.00	Water Inlet Assembly (M)
00207.00	1-1/2"X1-1/4" SLP. JT. Nut (M)

FRESHWATER PLUMBING ASSEMBLIES

00208.00	1-1/2"X1-1/4" SLP. JT. Nut Gsk. (M)
00242.00	1-1/2" Close Nipple (M)
00724.00	1/2" Compression x 1/2" MIP Ftg. (M)
00752.00	Hole Stopper Gasket
00760.00	5/8" Compression x 1/2 MIP Ftg. (M)
01513.00	Hole Stopper

MISCELLANEOUS

Part Number	Description
03701.00	L-1 Stand
03702.00	L-1 Overhead Slant Shelf
03703.00	L-1 Table with Sink
03705.00	Foam Tape

HARDWARE

Part Number	Description
03800.00	10-32x1 Pan Head Screw
03801.00	10-32 Lock Nut
03802.00	#10 Teflon Washer
03803.00	#10 Copper Washer
03805.00	8-32x1/4 Pan Head Screw
03806.00	3/8-16 SS Nut
03807.00	3/8" Internal Lock Washers
03807.50	3/8" External Lock Washers
03808.00	3/8" Brass Washer
03809.00	3/8" Stainless Steel Washer
03810.00	3/8-16 Thin Nut
03811.00	3/8-16 Nylon Lock Nut
03812.00	8-32 External Lock Washers
03813.00	3/8-16x1 Hexhead Bolt
03814.00	8-32x5/8 Panhead Screw
03815.00	1/4-20x3/4 Carriage Bolt
00906.00	1/4-20x1/2 Hex Head Bolt
00907.00	6-32x1/2 Panhead Screw
00911.00	8-32x1/2 Panhead Screw
00912.00	1/4 Nylon Lock Nut
00914.00	1/4-20x3/4 Hexhead Bolt
00915.00	1/4-20 SS Nut
00916.00	6-32 PM Nut

Part number	Description
00917.00	8-32 PM Nut
00918.00	10-32x1-1/2 Fillister Head Bolt
00919.00	10-32x1-1/2 Pan Head Bolt
00921.00	3/8-16x3/4 Hexhead Bolt
00922.00	1/4 Lock Star Washer
00935.00	1/4-20x1/4 Socket Set Screw
00923.00	1/4 Brass Washer
00924.00	1/4 SS Washer
00927.00	8-32 Nylon Lock Nut
00930.00	POP Rivet
00931.00	Twist Tye Small
00932.00	Twist Tye Large
00937.00	Cable Mount

STAINLESS

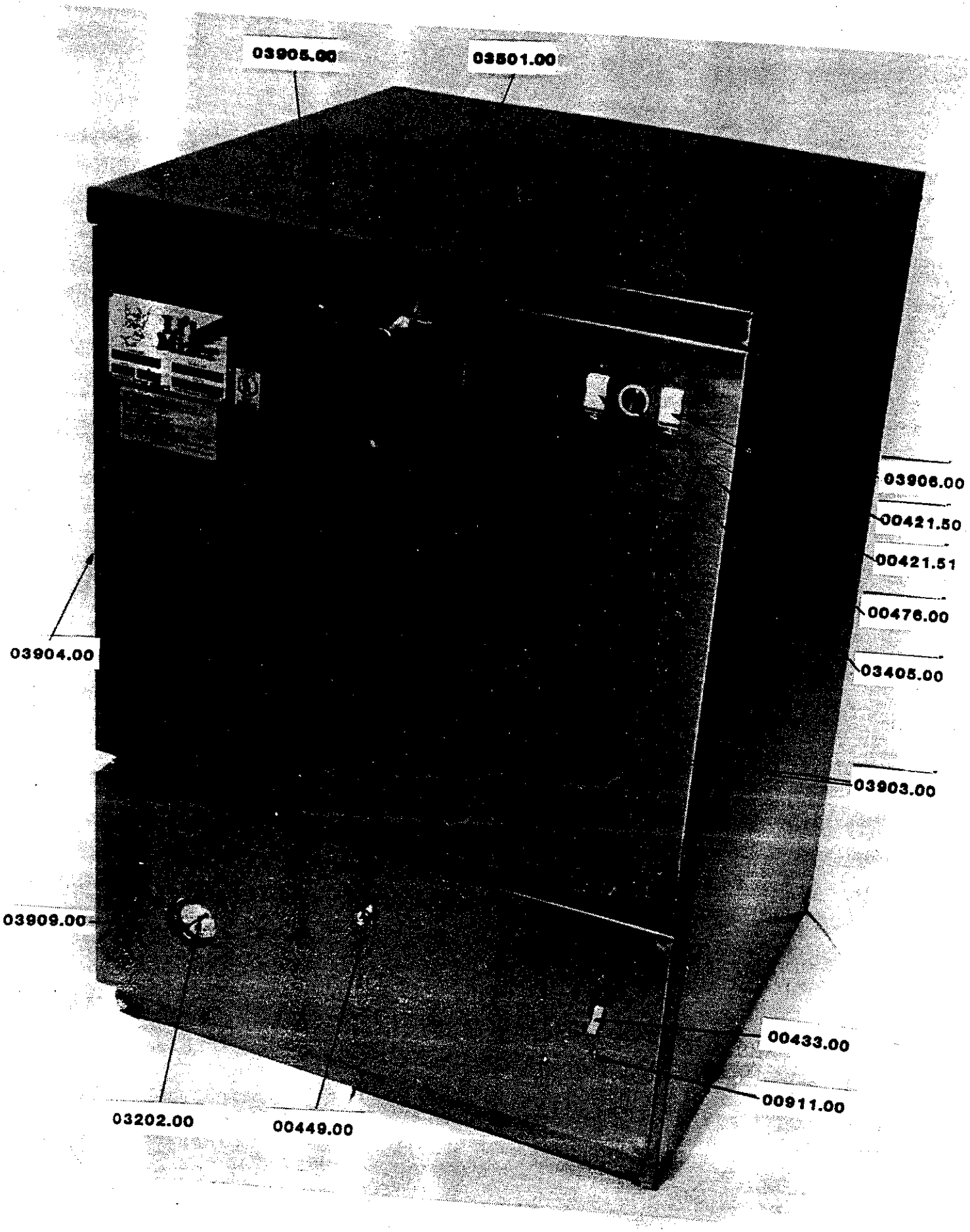
Part Number	Description
03900.00	S/S Box & Uprights (L)
03903.00	Door Front
03904.00	Left Side Cover
03905.00	Top Cover
03906.00	Right Side Cover
03907.00	Inside Door
03909.00	Control Box Cover
03910.00	Control Box
03911.00	Gasket Side Strip
03912.00	Gasket Top Strip
03913.00	L. H. Door Mount
03914.00	R. H. Door Mount
03915.00	Door Latch
03916.00	Latch Support
03917.00	Drip Guard
03918.00	Lock Clip
03919.00	Scrap Trap
03920.00	Small Scrap Trap
03921.00	Latch Bracket
03923.00	Manifold Plate
03924.00	Adjustable Foot
03930.00	Main Body (M)
03940.00	Right Hand Tray Track
03941.00	Left Hand Tray Track

LABELS

Part Number	Description
06215.00	NSF Operational Requirement Decal
06220.00	"Turn off Main Power....."
06230.00	LIL MIZER "Start-Fill-Drain" Decal

LITERATURE

Part Number	Description	
10301.00	LIL MIZER Brochures	LM-001
10302.00	LIL MIZER Flyers (100)	LM-002
10303.00	LIL MIZER Parts Price List	LM-003
10308.00	LIL MIZER Service Manual	LM-008
10309.00	LIL MIZER Specification Sheets (10)	LM-009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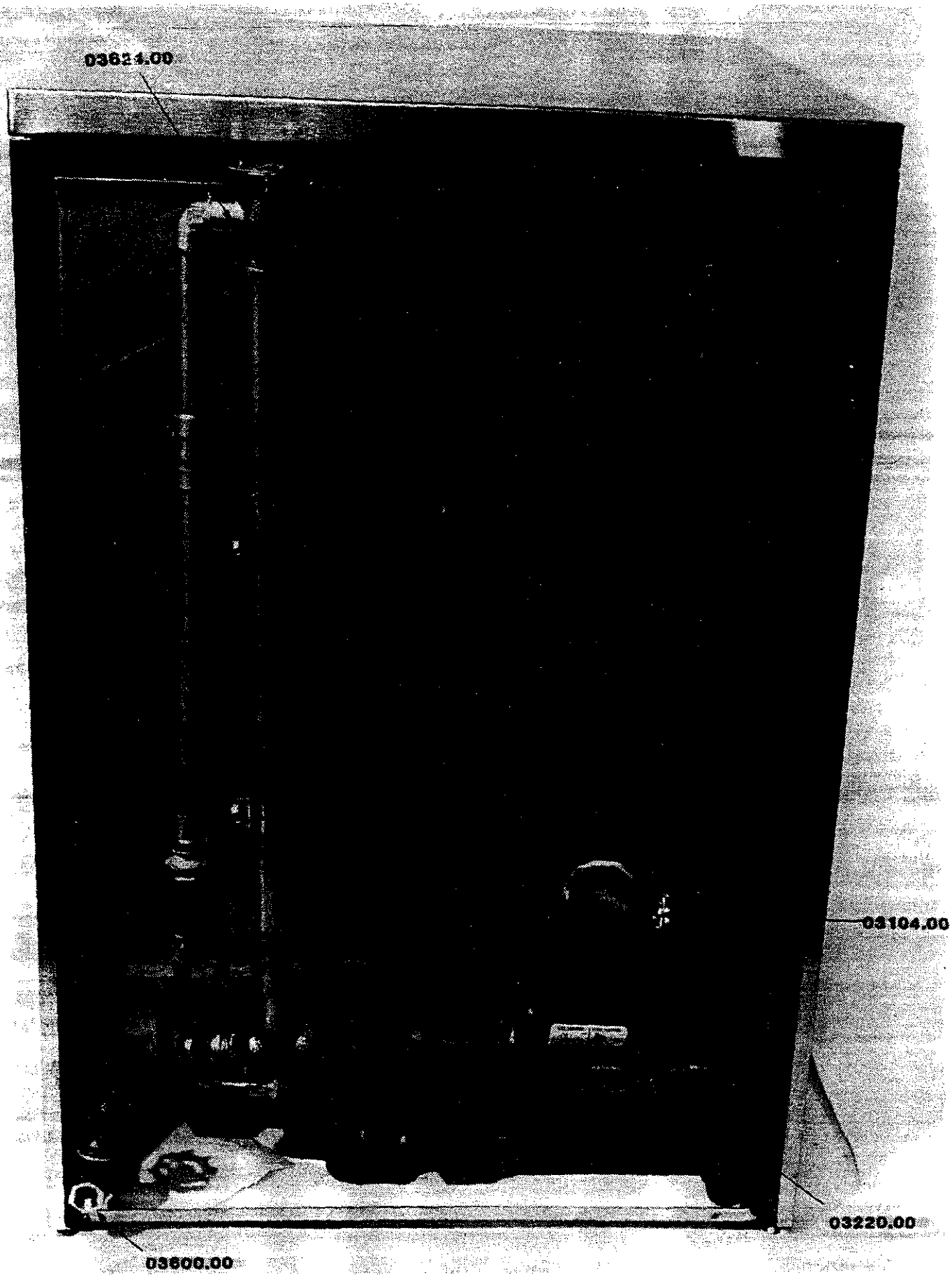
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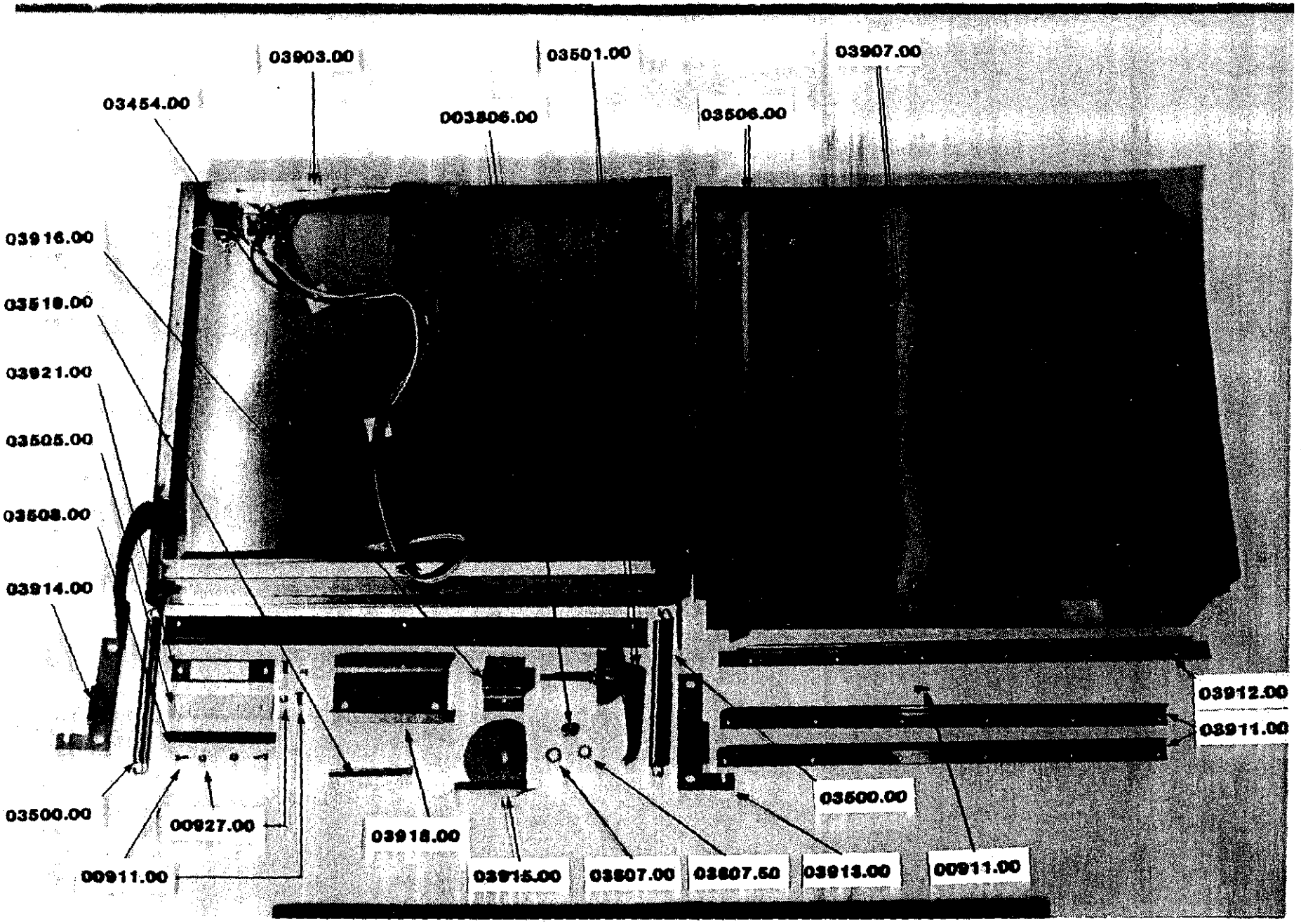
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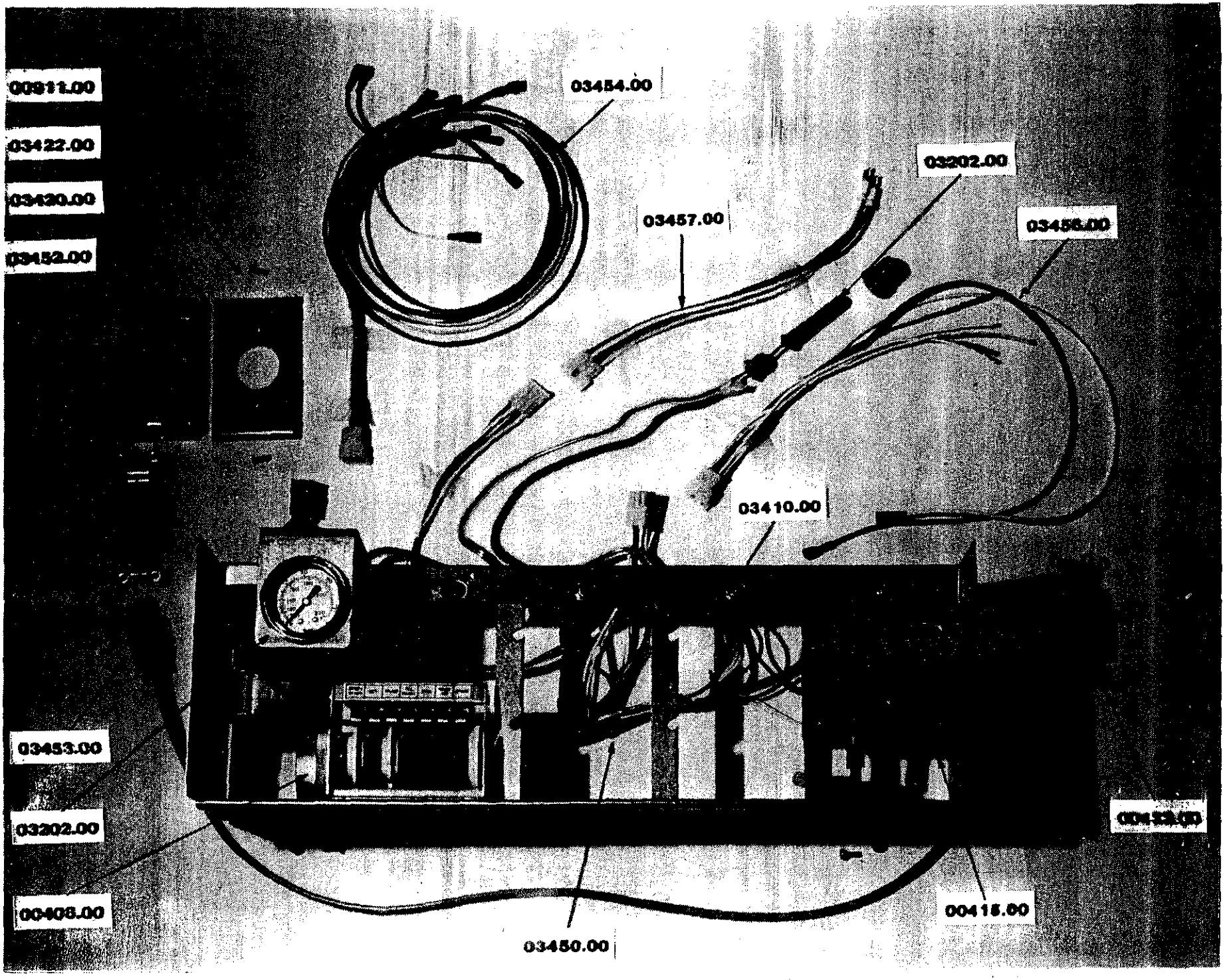
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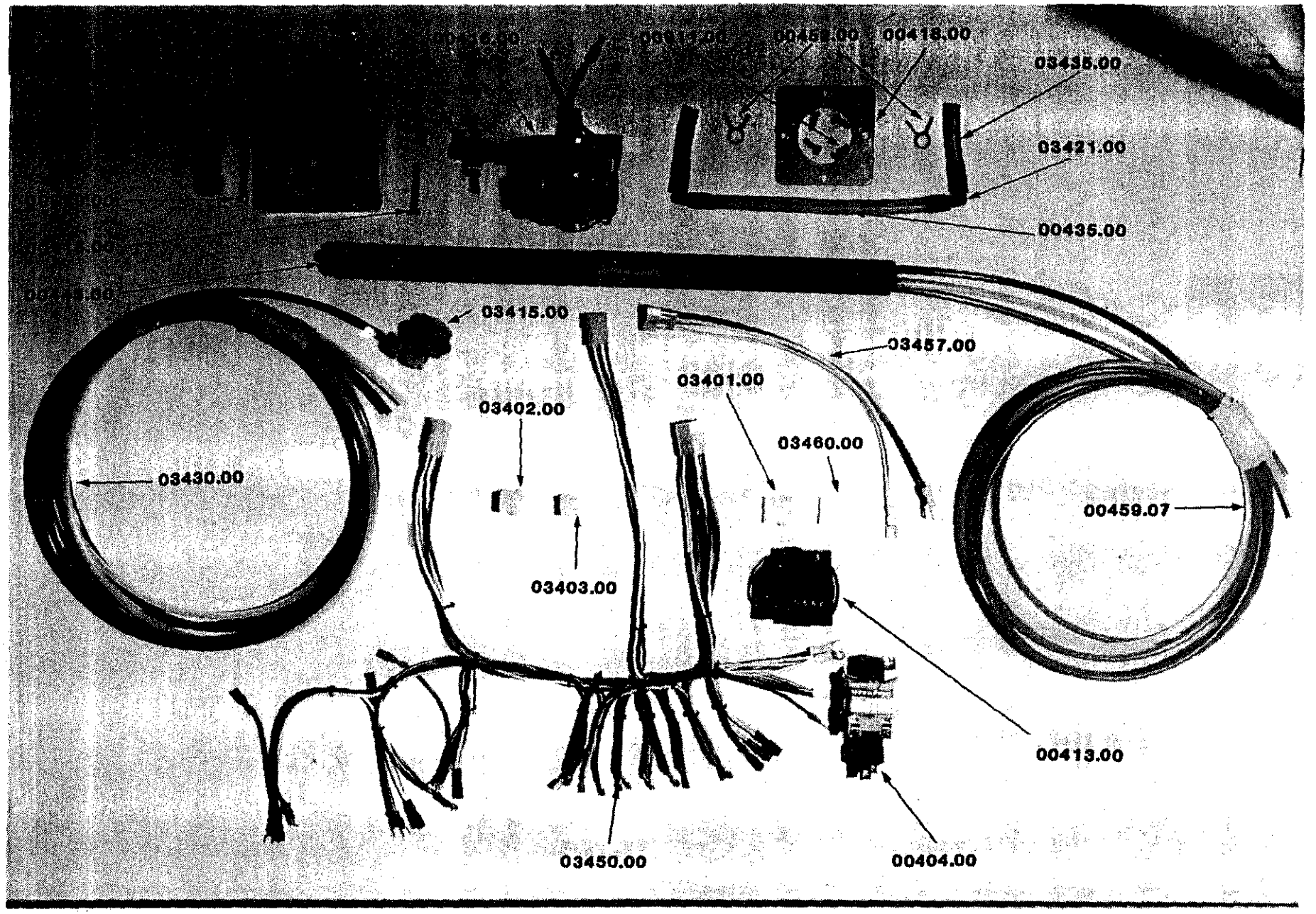
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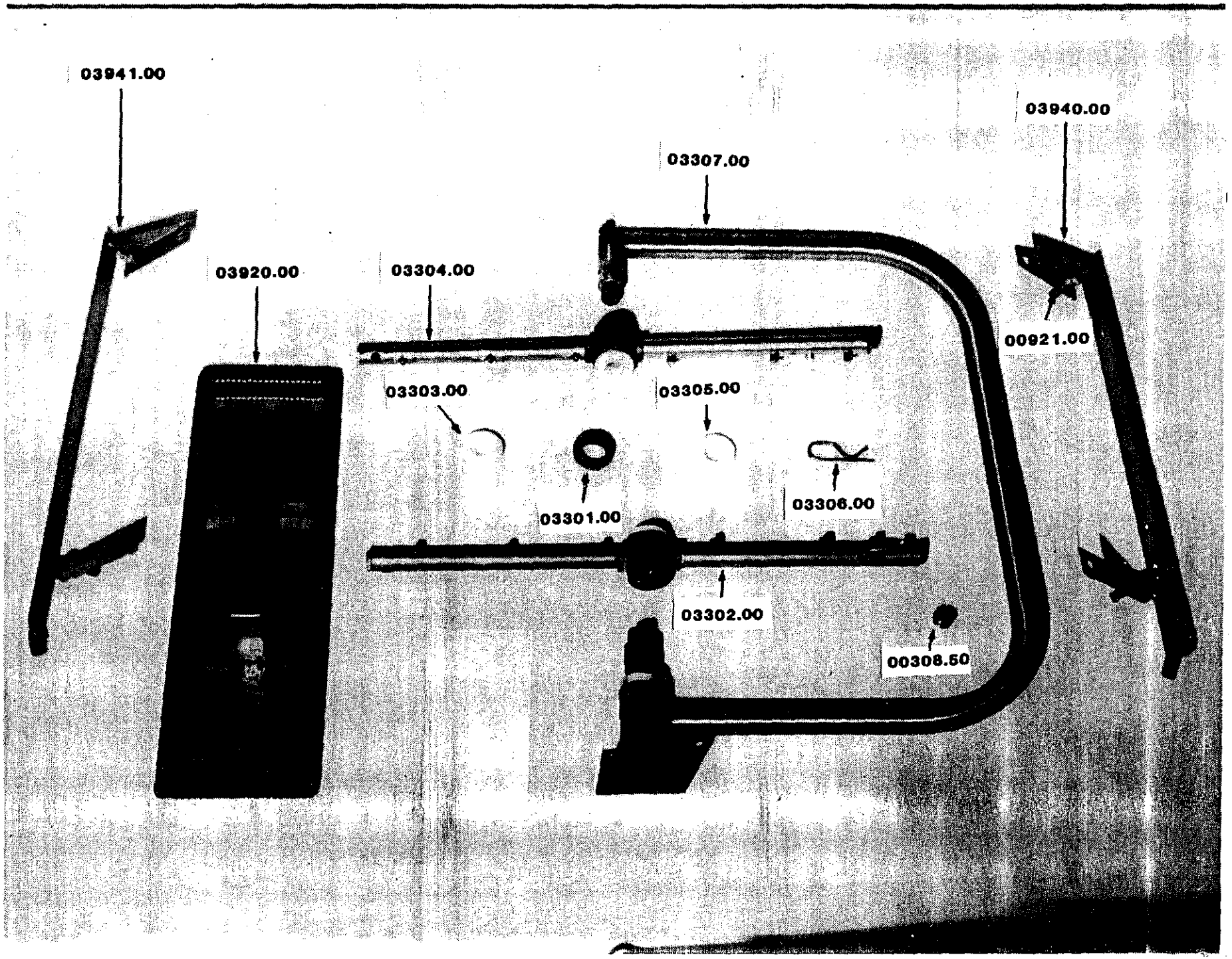
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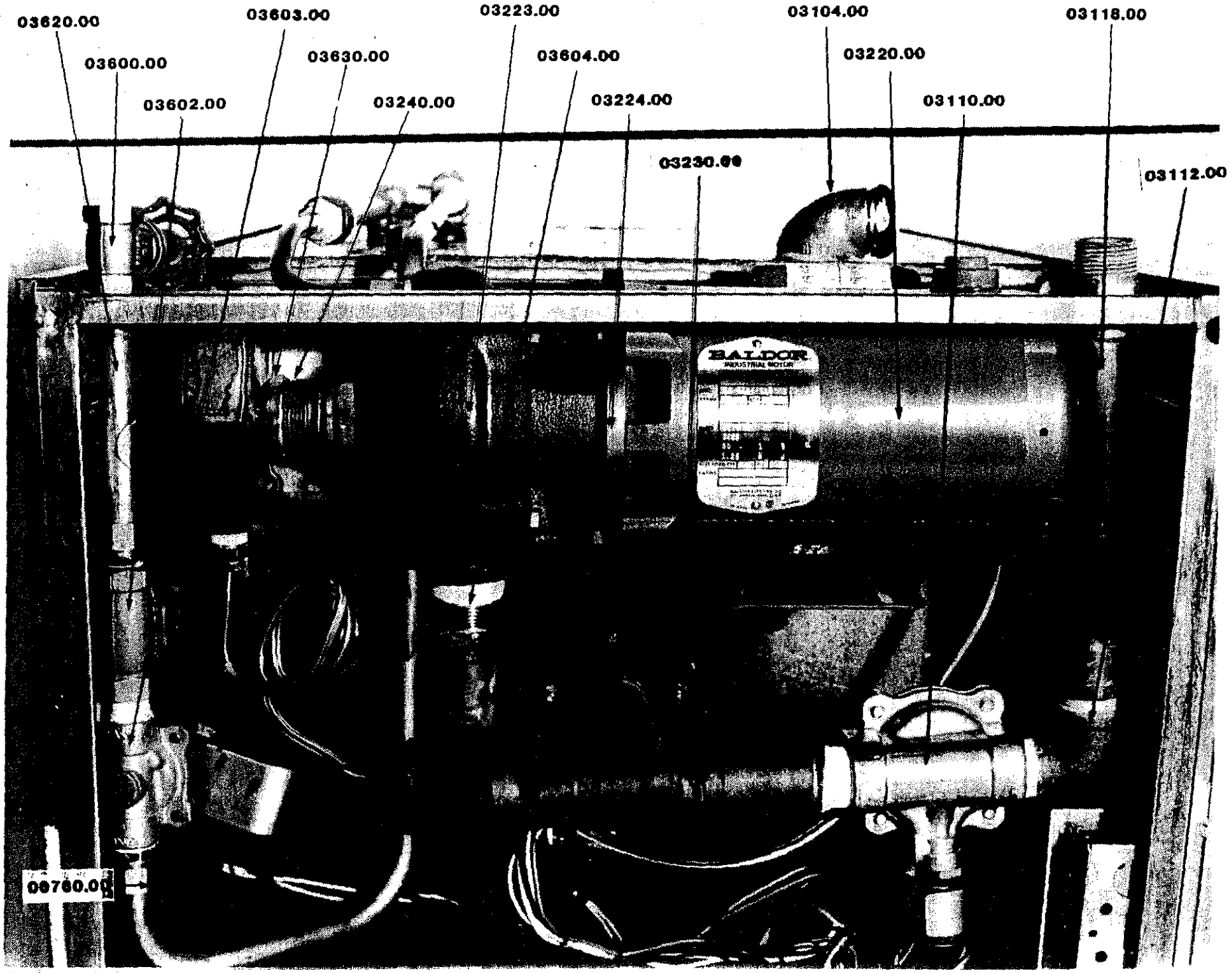
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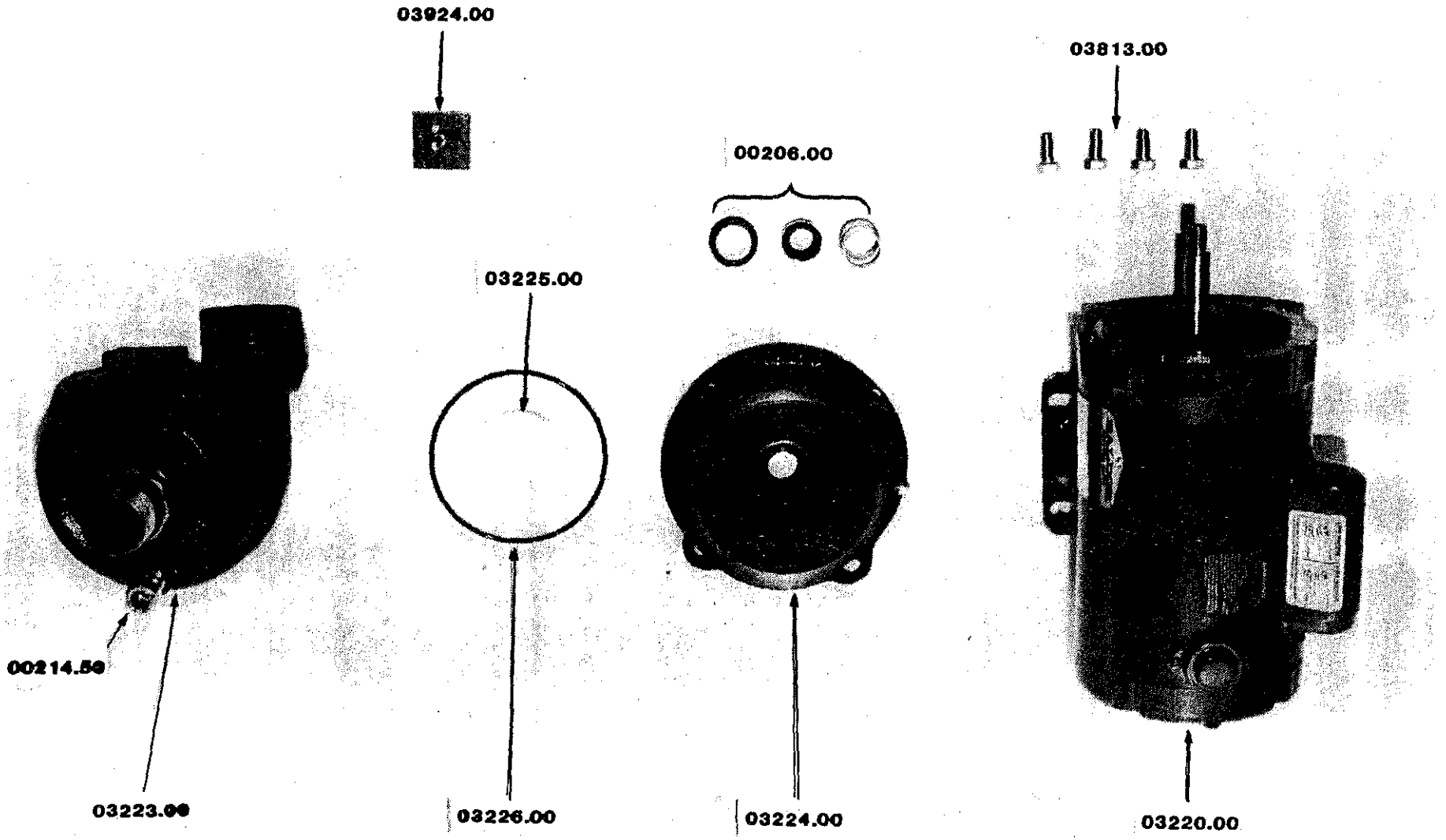
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