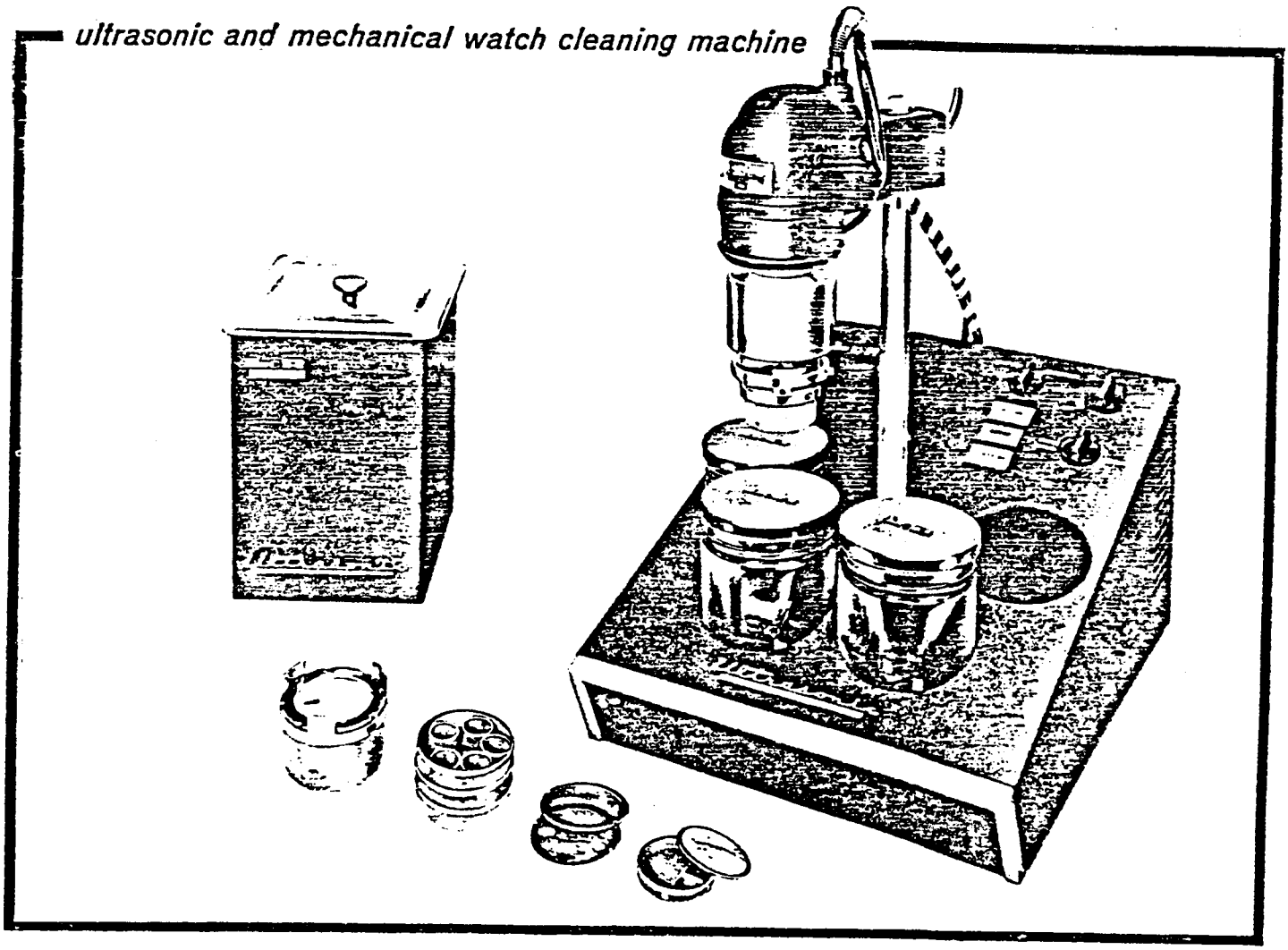
OPERATING AND MAINTENANCE MANUAL

L&R Console

ultrasonic and mechanical watch cleaning machine



The L & R Console embodies all the efficiency of Ultrasonic and Mechanical cleaning in a modern, functional, self-contained unit. The finish of the cabinet is virtually indestructible. Made with a laminated vinyl coating, it can be kept new looking indefinitely by simply wiping the surface with a damp cloth. The column of the machine is made of Stainless Steel and will never rust or corrode.

Your L & R Console has been constructed with care, of the finest material and components available, carefully inspected through each succeeding assembly operation, and has passed two final inspections as well as a final testing operation.

L&R MANUFACTURING COMPANY • 577 Elm Street, Kearny, New Jersey

The machine has been shipped to you in a custom designed carton to reach you in perfect operating condition.

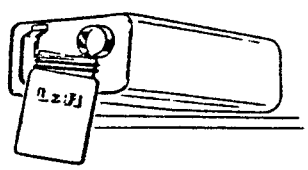
This carton contains the following:

- 1 L & R CONSOLE
- 3 JARS WITH BOTTOM BAFFLES
- 1 CLOCK BASKET
- 1 SET MULTIPLE INSERTS
- 1 #1 BASKET
- 1 SMALL PARTS UNIT
- 1 DIVIDER PARTITION BASKET
- 3 JAR COVERS
- 1 FANWHEEL FORK
- 1 QUART ULTRASONIC CLEANING SOLUTION
- 2 QUARTS ULTRASONIC RINSE
- 1 PLASTIC DUST COVER

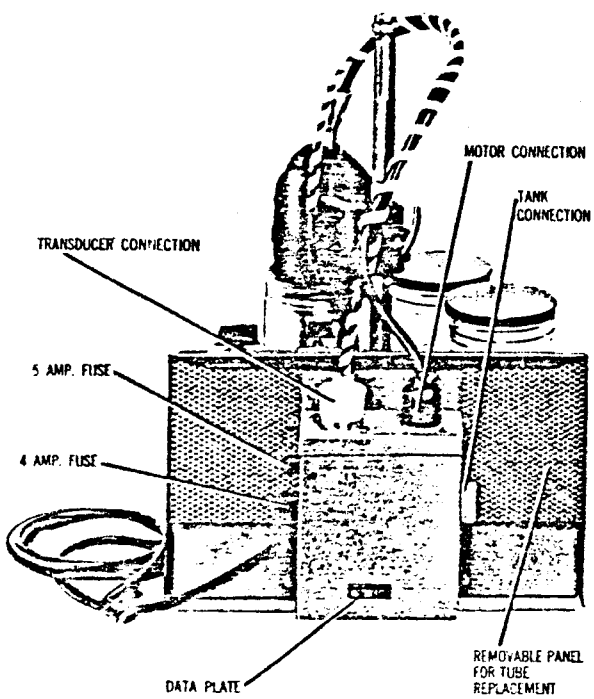
Please examine the contents of the carton carefully to make sure that you have all of these items.

TO SET UP MACHINE

After unpacking, set the machine on a firm level table. Carefully clean and dry the jars and baffles. Pour the L & R Cleaner into one jar so that its level will be about ⅛ inch above the letters "L & R" embossed on the jar. This jar should then be placed in the jar position to the extreme left when facing the machine. Pour the L & R Ultrasonic Rinse into the other two jars to the same level and place these jars into the remaining two jar positions of the machine.



The best way for solutions to be poured is with the spout of the can upward and resting on the jar. If the jar is placed at a slight angle away from the can, but touching the spout, no spillage will occur.

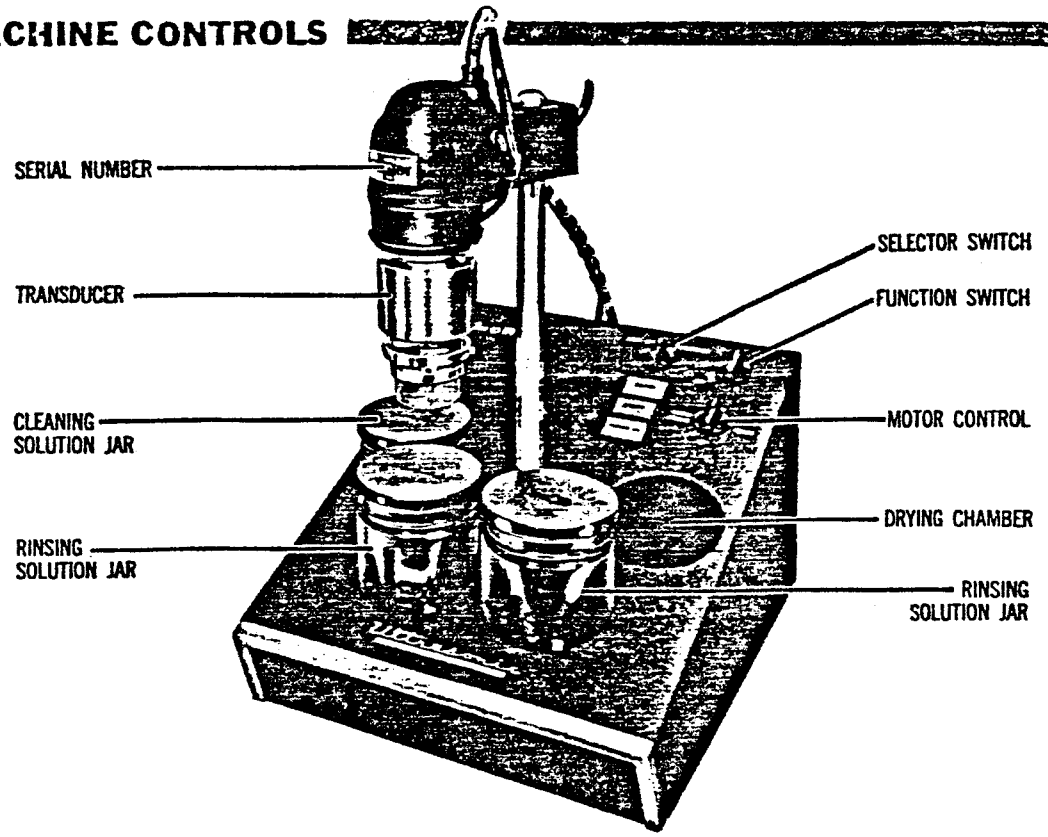


Place the Motor Plug (four prong) into its mating socket at the top of the rectangular section at the back of the machine. Place the Transducer Plug (five prong) into its mating socket next to the motor socket. If the Ultrasonic Tank is used, this should be connected to its mating socket at the side of this rectangular section. Make sure that all plugs are securely seated in their sockets. Place enough ELLANAR Jewelry Cleaner into the tank so that it is approximately half full.

Connect the machine to its electrical outlet. Check the data plate of the machine for correct voltage. The machine must be properly grounded, either through the use of the grounded polarized plug of the machine or by properly connecting the green pigtail of the adapter plug to some known good ground. The machine must be used on alternating current only. Any attempt to use this on Direct current will result in serious damage to the machine.

The machine should now be operated to see if it is functioning properly. If for any reason it does not, notify the transportation company immediately of hidden damage.

THE MACHINE CONTROLS



1 The Function

This is a four position switch. When the switch is at "Off", the generator and dryer are in the off position. It is still possible to use the machine mechanically, but the ultrasonic circuit as well as the dryer will be inoperative.

When the switch is at "Ultrasonic and Dryer," (the normal use position for cleaning watches), the machine will operate both mechanically and ultrasonically, and the heater will be operative. The generator pilot light, as well as the dryer pilot light, will glow.

With the switch at "Dryer", the ultrasonic circuit is inoperative, but the dryer is working. (The generator light is off, the dryer light is on.) This enables the watchmaker to use the dryer only to dry parts cleaned in the Ultrasonic Tank, etc.

When the switch is at "Ultrasonic," the ultrasonic circuit is operable, but the dryer is off. This is the switch position for using the Ultrasonic Tank.

2. Selector Switch.

The selector switch is used to determine whether the ultrasonic activity is to be used for watch cleaning or the Ultrasonic Tank. When the switch is at "Machine" position, ultrasonic activity will automatically start in the jar as soon as the Basket Motor is placed on any of the solution jars, and it will stop as soon as it is lifted off the jar. A small actuator pin at the bottom and rear of the motor governs this, as well as the automatic reversal of the basket motor, by its contact with the lip of the jar.

When the Selector Switch is at "Tank" position, the ultrasonic activity is diverted from the machine to the Tank. It is then started and stopped by placing the function switch to its proper position, i.e. "Ultrasonic," to start, and "Off" to stop. **CAUTION — The Ultrasonic Generator should never be used unless there is sufficient solution in the Jars and Tank. Failure to observe this caution can result in serious damage to the generator.**

3. The Third Switch and Control, marked "Motor".

This switch is self explanatory. It starts and regulates the speed of the basket motor. When the control (Rheostat) is rotated clockwise, the motor pilot light will light, and the further the control is advanced the faster the motor will turn. The Control must be placed at the extreme counterclockwise position to shut the motor off.

To correctly regulate the speed of the motor, it is suggested that the control be advanced to the point where the motor will run and then, if necessary, turn it back to obtain the desired slow cleaning speed. The Basket Motor will automatically reverse while the basket is in solution. When the basket motor is lifted off the jar, the motor will turn in one direction only. This exclusive L & R design was created as a safety feature for your very delicate watch parts, as well as for its superior cleaning results.

OPERATING INSTRUCTIONS

The curved lever at the back of the motor assembly is the tightening handle for the motor assembly. Push the lever inward to unlock the motor assembly, and raise it to the top of the column and lock it in place by pulling the lever outward. You will find this to be the handiest position for attaching and removing the basket. The handle should be tightened at all times when the basket is in the jar, in the spin-off position, or in the drying chamber.

It is not our intention to tell the watchmaker to what degree a watch should be disassembled. L & R has always recommended complete disassembly. With ultrasonic cleaning, we are aware that "shortcuts" can be taken, but we prefer to leave this to your own good judgment. Common sense and your own watchmaking skill will quickly indicate the amount of disassembly necessary.

Attach the basket to the fanwheel by holding on to the basket frame. Lower the motor and basket assembly into the jar containing L & R Ultrasonic Cleaning Solution at the extreme left until the Seal Top of the motor fits snugly onto the jar rim and tighten the Motor Lever (outward).

Place the selector switch to "Machine" position.

Place the Function switch to Ultrasonic and Dryer position.

Advance the Motor Control to where the motor starts to run, and then return the control to obtain a relatively slow speed.

After about three minutes or so, turn the motor control counterclockwise to off. Unlock the Motor Lever and raise the motor assembly so that the top rim of the fanwheel is just below the top rim of the jar. Lock the motor assembly in place and advance the motor control to spin-off excess solution from the basket into the jar. When no more solution is seen running down the inside of the jar, stop the motor by returning the control, unlock the motor assembly, raise it to the top of the column, and lower it into the next position to the right for the first rinse.

The above operations are repeated for the second rinse and then the dryer.

In the dryer position, the motor should turn at a slow speed in one direction only. Three to five minutes should be enough to thoroughly dry the watch parts. Note: The dryer pilot light must be on during the drying cycle.

It will be observed from these instructions that the Selector Switch and Function Switch need not be changed during the watch cleaning operation. The whole cleaning cycle is electrically controlled by the use of the Motor Control, only.

Follow these recommendations for best results:

1. Disassmble all watches.
2. Avoid placing two large flat surfaces together in one basket.
3. Train wheels, escapement, and screws should be placed in the indented compartment of the basket tray.
4. You will note that the basket tray cover has a depressed side. Place this side down over the basket tray. This depression will keep all small parts in the tray.
5. The Fanwheel Fork will simplify mounting and removing the clock basket from the fanwheel.
6. Best results are assured when L & R Watch Cleaning and Rinsing Solutions are used. They were designed for use with each other, and were specifically intended for use in this machine. They provide you with highest efficiency, best results, and greatest economy. Caution: The use of solutions other than L & R can be dangerous. So-called bargain, or home-made, solutions can be injurious to your health, and can be extremely hazardous.

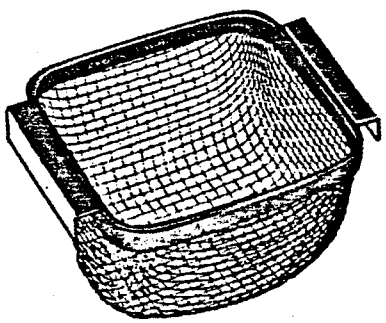
ACCESSORIES AVAILABLE

LITTLE BASKET

NO LONGER AVAILABLE

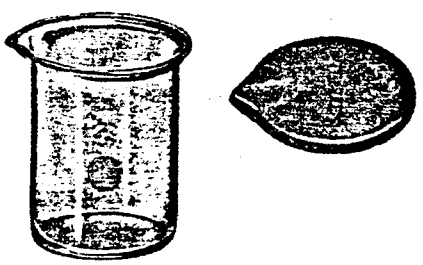
~~This low cost basket has been designed to simplify the cleaning of the very small screws and jewels of today's miniature watch movements. The parts are placed into the basket, then covered with its friction tight cover. The basket is then placed into the regular cleaning basket.~~

TANK BASKET



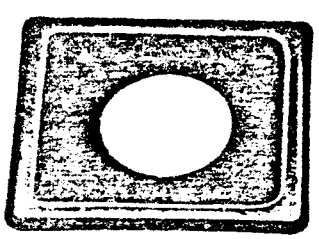
Designed to facilitate the loading of parts into the tank and their removal. Made entirely of Stainless Steel, it becomes a long-lasting, useful accessory.

BEAKER – 400 ML or 600 ML and BEAKER TOP



Where it is desirable to clean a piece of jewelry or other small part quickly without changing the solution of the tank, this low cost accessory makes itself indispensable.

BEAKER POSITIONING COVER



This accessory is used to properly position the beaker, and at the same time, keep the solution of the tank covered. When the beaker is used, this item is practically a must.

MAINTENANCE

In common with all similar mechanical, electrical, and electronic appliances, the problem of maintenance or the necessity for corrective procedures may eventually arise. Some failure symptoms and their possible corrections are outlined here:

1. **Ultrasonic Action inoperative**
   CORRECTION —
   Check lower fuse
   Check tube — Panel at the right rear may be removed for checking tube. Before removing the panel, disconnect the machine from its electrical outlet!
   Make sure the Ultrasonic Plug is securely seated.

2. **Ultrasonic action stops in machine, but works in the tank.**
   CORRECTION —
   Check Transducer Plug for sound connection. Visually examine switches on chassis. Chassis can be removed by disconnecting from electrical outlet and removing four screws at tops and bottom at the back of the machine.
   If fault cannot be determined, transducer should be disconnected from the motor and returned to the factory.

3. **No Ultrasonic Action in Tank — machine works**
   CORRECTION —
   Check Tank Plug connection.
   Check Switch Position.
   Check all switch connections.

4. **Basket Motor Speed erratic — Sometimes fast — at other times, slow.**
   This condition is almost always due to the fluctuating supply voltage.
   CORRECTION —
   First try outlet of a different circuit.
   Purchase a constant voltage transformer.

5. **Motor does not run.**
   CORRECTION —
   Check Motor circuit fuse
   Check Motor Plug connection
   Check Rheostat
   Check Motor Brushes for free movement.
   If fault cannot be found — disconnect motor and return to factory.

6. **Machine completely inoperative.**
   CORRECTION —
   Check outlet.
   Check both fuses.
   Check line cord connections inside chassis.

7. **Parts do not dry.**
   CORRECTION —
   Check Fan Motor Connections.
   Check Heater Connections.
   Check Pilot Light Connections.

Increased drying efficiency can be obtained by using faster spin-off speed. This, of course, leaves less solution in the basket and makes drying easier.

Should any difficulty arise that cannot be corrected by any of the above suggestions, contact the factory immediately, supplying the model and serial number of the machine, and as much detail as possible regarding the machine's malfunction. It is very possible that some corrective action be outlined to help you.

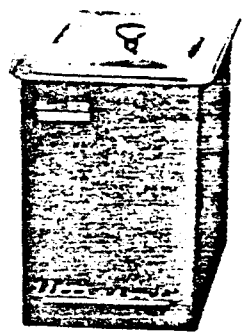
A WORD ABOUT THE BASKETS

The Watch Basket (small) is used when cleaning one or two watches. For one watch, its use is obvious. The small parts, i.e. escapement, small parts, and screws are placed in the indented compartment on top, and the larger plates are placed in the basket itself. If two watches are to be cleaned, then one disassembled watch is placed into the proper compartments of the **Divider Partition Basket.** This basket is then placed into the bottom of the watch basket and the larger parts of the second are placed on top of the cover for the Divider Partition Basket. The small parts are placed as above for one watch. For very small watches, the use of the **Small Parts Unit** is recommended with this basket. This Small Parts Unit is made of very fine mesh and has been engineered so that the very small screws, jewels, etc. of today's miniature watches can be cleaned without loss into the jars.

The Clock Basket (large) was designed to handle pocket watches and very small clocks. Through the use of the **Multiple Insert Baskets** with the clock basket, three or more watches can be successfully cleaned at one time.

L & R ULTRASONIC TANK

NO LONGER AVAILABLE



The L & R Ultrasonic Tank can help you take full advantage of your machine. Having inside dimensions of approximately 6" x 6" x 6" and a ½ gallon capacity of solution, it can readily be seen that the ultrasonic cleaning of most clocks and jewelry becomes a matter of minutes rather than the old-fashioned, tedious method of soaking, brushing, boiling, etc.

The tank must be connected to the socket at the left vertical surface of the rectangular section on the back of the machine. After solution has been placed into the tank, it is turned on by placing the selector switch to "Tank," and the function switch to "Ultrasonic." It is shut off by placing the function switch to "Off."

Being very versatile, the tank can be used to ultrasonically clean clocks, jewelry, or both. When the tank is used to clean jewelry, only, it is half filled with ELLANAR Jewelry Cleaner. The parts to be cleaned are placed into the tank and the ultrasonic generator is turned on for about three minutes or more depending upon the condition of the parts. After the allotted time, place the function switch to "Off," remove the parts, and rinse in clear water, then dry. The parts should come out bright — gems sparkling. In some extreme cases, such as caked soap behind diamonds, it may be necessary to help the ultrasonic cleaning by manual manipulation, such as brushing.

If the tank is to be used primarily to clean clocks, then the tank should contain enough L & R Ultrasonic Cleaning Solution to cover the clock movement. After about three minutes or so, the machine is shut off, the movement is then removed, rinsed manually in L & R Ultrasonic Rinse, and dried.

It is possible to clean both clocks and jewelry without emptying and refilling the tank to change solutions. This is accomplished by keeping L & R Ultrasonic Cleaning Solution in the tank for clocks, and by using a beaker and beaker positioning cover on the tank for the cleaning of jewelry. The jewelry to be cleaned is placed into the beaker and covered by ELLANAR Jewelry Cleaner. The Beaker is then positioned through the Beaker Positioning Cover on the tank. When the ultrasonic action is turned on, the sound waves will go through the beaker to efficiently clean the jewelry. Of course, after removal, the jewelry must be rinsed and dried. The only precaution that must be observed is the prevention of the entrance of water or water-based solutions into the L & R Ultrasonic Cleaning Solution. Should this happen, the solution would become useless.