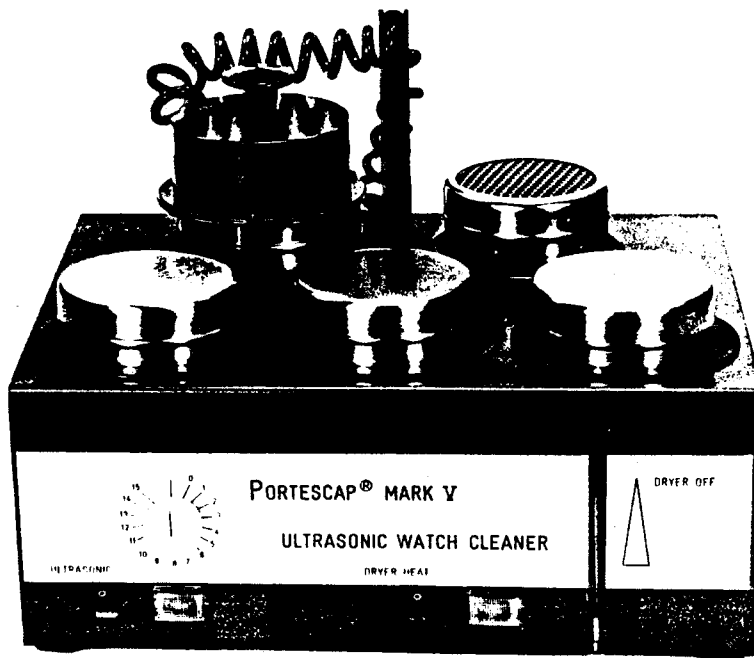


OPERATING INSTRUCTIONS

MARK V

ULTRASONIC WATCH CLEANER



INTRODUCTION

The VIBROGRAF Model Mark V Ultrasonic Watch Cleaner has been designed to meet and fulfill the specific requirements of the modern jeweler and watchmaker. Utilization of the time proven ultrasonic principle and controlled variable speed spin dryer with automatic temperature control provides maximum cleanability and drying in a minimum of time. The compact size of this machine and its versatility provide maximum effectiveness in cleaning watch movements, precision parts and small clock movements.

ULTRASONIC CLEANING

It should be noted that cleaning watches by means of ultrasonic cavitation, rather than by mechanical agitation in the solution, involves the acceptance of certain basic precepts that are unique to the science of ultrasonics. Practices and procedures that have proven successful when cleaning a watch by hand or using a mechanical cleaner, may not be applicable to ultrasonic cleaning and could limit or reduce the efficiency of the ultrasonic method, resulting in inferior cleaning. It is therefore strongly recommended that you read this booklet carefully and follow its suggestions. Variation of procedures can be made after experience has been gained using your VIBROGRAF Ultrasonic Cleaner.

SOLUTIONS

The VIBROGRAF Ultrasonic Cleaner uses approximately six ounces of solution in each cup. Frequent change of solutions is recommended. The small amount of solution used makes frequent changing economical, and produces better watch cleaning. Time and ultrasonic cavitation produce chemical changes in all types of solutions. Do not cavitate solutions longer than ten minutes cumulative, or clean more than twelve watches without changing.

Changing solutions is highly recommended; changing with each group will produce the cleanest possible results.

Use only quality ultrasonic watch cleaning and rinsing solutions with this machine.

**UNPACKING THE
MACHINE:**

Remove the machine and accessory carton from the outer sleeve. Remove the machine from its carton and accessories from their carton. If any damage is found, notify the delivering carrier and Vibrograf U.S.A. in New York immediately. Your machine is packed with the following accessories:

- 1 - Cable bracket with 2 mounting screws
- 1 - Submersible transducer assembly with cable
- 4 - Ointment jars
- 4 - Solid jar covers

- 2 - Plastic dryer cup covers
- 1 - Divided Basket
- 6 - Small thimbles for above basket
- 1 - Plain basket
- 1 - Basket clip for above basket
- 1 - Large thimble for above
- 1 - Plastic dust cover
- 1 - Spin dry cup
- 1 - Transducer bracket with screws
- 1 - Hook for lifting baskets out of solution

**TECHNICAL
SPECIFICATIONS:**

Dimensions:	12½" W x 10" D x 6.0" H
Cup Diameter:	3 inches - 7.62 cm.
Cup Capacity:	6 fluid ounces
Cleaning Power:	50 watt max.
Power Consumption:	270 watt max.
Transducer:	Submersible lead-zirconate-titanate sandwich
Frequency:	35 K HZ
Timer Switch:	0 - 15 minutes
Load Capacity:	Up to (12) watch movements or 1 standard pocket watch
Weight of Machine:	13 lbs.
Weight for Shipping:	18 lbs.
Dryer Temperature:	150° F
Dryer Cup Speed:	0 - 1500 RPM

INITIAL SETUP:

Locate the machine on a sturdy level surface in an area with adequate ventilation.

Plug the power cord into a 110V AC 60 HZ grounded outlet. The machine draws a maximum of 270 watts during operation. No special wiring necessary.

A fuse is located at the rear of the machine and should it have to be replaced, use a replacement fuse that is rated at 2.5 amps which is identical to the spare fuse provided.

Clean all cups with clean solution and dry thoroughly before initial use.

Carefully plug transducer cable into socket at rear of machine.

Study pin arrangement for proper fit -- black cable faces down. * Note: This plug has interlock which stops all AC power when it is unplugged.

Mount cable bracket at top center rear of machine using two small screws provided.

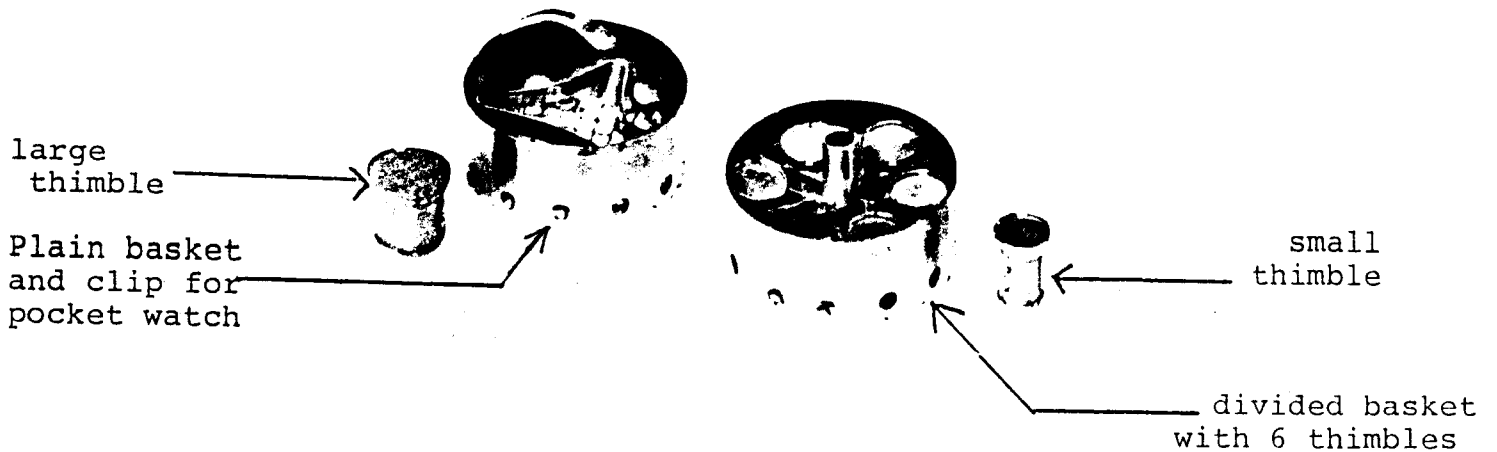
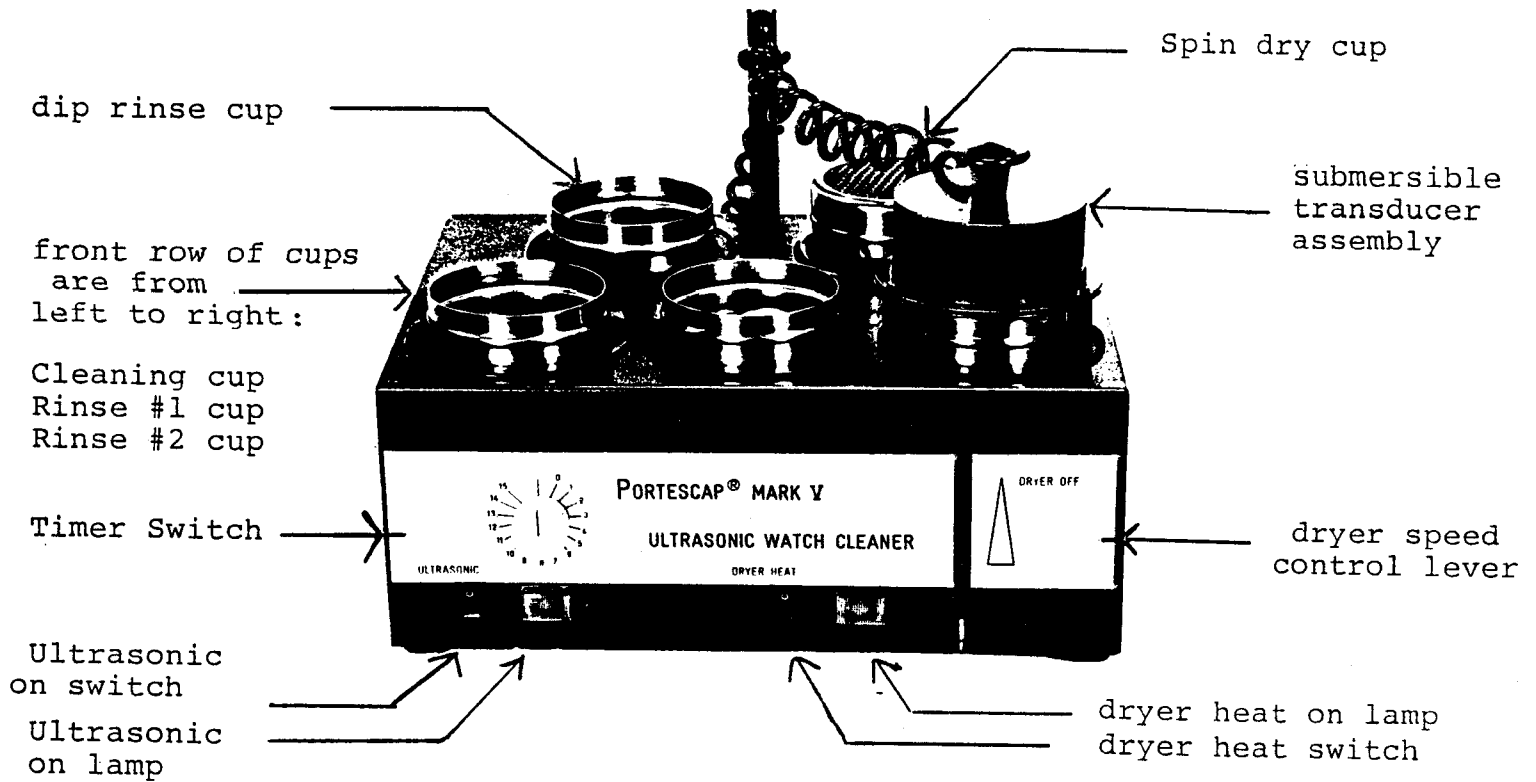
Push down grommet on transducer cable into U shaped slot in bracket.

Mount transducer storage bracket on right rear of machine using 2 screws provided.

Place transducer on storage bracket on right rear of machine -- or the transducer assembly may be stored on the table next to the machine.

Never place the transducer directly on the solid covers of the cups.

IDENTIFICATION OF CONTROLS:



PREPARING
DISASSEMBLED
WATCHES FOR
CLEANING:

Certain basic procedures should be followed, but methods can be varied to some degree as experience is gained. It is recommended that you start with two or three movements, increasing the number as you become more familiar with your machine.

Some watch repairmen may prefer to disassemble a watch completely. Such disassembled watches can be cleaned in your VIBROGRAF Ultrasonic Cleaner, if prepared as follows:

(a) Place plates and bridges, large enough not to drop through the mesh bottom, on edge in one of the numbered rectangular compartments of the divided basket.

(b) Place all small parts (screws, pallet lever, pallet bridge, balance wheel, setting parts, etc.) in one of the small thimble baskets, cover securely, and insert into the adjacent triangular compartment marked with suffix "A".

(c) Ratchet wheel, mainspring barrel and other large parts can be placed loosely in the bottom of the triangular compartment with the small thimble basket.

(d) The large, undivided basket will accommodate large plates of pocket-watch movements. The spring-clip insert should be placed on top, to keep contents centered and to prevent them from being accidentally whirled out by the centrifugal force created during the spin-dry cycle.

Note: Spring clip is inserted with circular side down.

(e) Place smaller pocket-watch parts in large thimble basket, cover securely, and insert into one of the three semicircular compartments formed by the clip after it is placed in position. Spring tension of the clip will hold thimble basket in place.

IMPORTANT NOTE:

Partially disassembling watch movements will save many profitable minutes in servicing a watch. The VIBROGRAF Ultrasonic Cleaner will clean most watches thoroughly without the removal of cap jewels, balance, time train, dial train or setting parts! Ultrasonic cavitation actually scrubs thoroughly if watches are only partially disassembled. Inspection and oiling will necessitate further disassembly, however. With a little experience, each individual watch-repairman will soon learn how much time can be saved in this specific operation.

PREPARING "PARTIALLY
DISASSEMBLED" WATCHES
FOR CONVENTIONAL
CLEANING:

(a) Remove hands, dial, hour wheel, cannon pinion, mainspring bridge, mainspring barrel, the barrel cover and mainspring arbor; (leave mainspring in barrel.) If inner coil of mainspring is well-fitted to the arbor, arbor can be left in place. Shock and spring mounted cap jewels may be removed, but balance and train wheels can be left in place.

(b) Put stem in "setting" position. Place strap or bracelet movements on one of the numbered rectangular compartments of the divided basket, with balance toward the center. Pocket watches should be placed in the undivided basket at "dial up" position.

(c) Any part that can fall through the mesh covering the bottom of watch basket should be placed in a thimble basket, inserted in the triangular compartment adjacent to the movement. Parts large enough to remain in the divided basket can be placed under the thimble basket or stand on edge with movement in the rectangular compartment.

(d) Tighten dial screws, as loose screws may fall out due to ultrasonic vibrations in the solution.

GENERAL INFORMATION:

1. Ultrasonic activated cups can be covered while the machine is in use, at the discretion of the user. Naturally, cover cup when machine is not in use.
2. Demagnetize all watches (except electronic and electric) on the Portescap Demagnetizer.
3. Exercising care when filling cups with solution or moving the transducer from one cup to another, blotting or draining baskets, will minimize contamination of solution and help eliminate component damage and increase the operating life of your Cleaner.

YOUR CLEANER IN USE:

IMPORTANT! Do NOT turn machine on with transducer out of the solution.

REMEMBER: Timer switch must be turned ON if you wish to use the ultrasonic or dryer portion of the machine.

Three Rinse Procedure

- Step 1. Insert watch basket in ultrasonic wash cup and then fill to within 1/2 in. (12 mm.) from the top rim of the cup.
- Step 2. Place transducer on cup. Depress ultrasonic switch. Activate wash cup by turning timer switch to 2-4 minutes.
- Step 3. After wash cycle is completed, remove basket, drain or blot and place in spin off 10 sec. Place basket in dip-rinse cup, then hand agitate basket with circular and vertical motion. Drain or blot basket.
Note: Transducer should be placed on storage holding clip of machine when not in use -- do not turn on ultrasonic with transducer out of solution.
- Step 4. Place basket in the first rinse cup, place transducer on cup, depress ultrasonic switch and activate by turning timer switch to 2-4 minutes.
- Step 5. After rinse is completed, remove basket, drain or blot and place in spin off 10 sec. Then place basket in second rinse cup. Place transducer on cup, depress ultrasonic switch and activate cup by turning timer switch to 2-4 minutes.
- Step 6. After this rinse is completed, turn ultrasonic switch to "OFF". Place basket in spin-dry cup. Turn on dryer heat by depressing switch. Set timer to desired time. Adjust cup speed with lever. COVER SPIN-DRY CUP DURING DRYING CYCLE WITH PLASTIC OR METAL VENTED COVER ONLY. Plastic covers are supplied in two sizes. Use the cover that best fits your spin-dry cup.
- Step 7. While work is drying, discard solution in the dip-rinse cup and replace it with the rinsing solution from second rinse. Wipe the extra cup dry. When ready to clean another basket of work, refill the second rinse cup with fresh rinse solution. In this procedure, only one cup of fresh rinse is required for each basket of work. Frequent changing of the solutions is recommended.

Two Rinse Procedure

If two step method is preferred, simply eliminate step 5 of the above procedure.

Instructions for using Vibrograf UNI-SOL

Single Stage Plastic Lubricant

1. Thoroughly mix 4 oz. bottle of lube concentrate (or less if desired) with one gallon ultrasonic rinse.
2. Uni-Sol should only be used in the last rinse.
3. Change the first rinse frequently to assure that the movements are thoroughly rinsed before being placed into the final ultrasonic rinse containing OS-1.
4. Demagnetize all watches except those having permanent magnets (unless removed).
5. Remove dial and hands but do not disassemble complete movement for cleaning. All repairs such as stem, staff, rusty parts, etc., should be completed before cleaning.
6. Clean movements in ultrasonic cleaning solution and spin off for at least one minute.
7. Rinse movements in each plain ultrasonic rinsing solution for three minutes. Spin off for approximately 15 seconds between each rinse.
8. Place in last ultrasonic rinse containing Uni-Sol plastic Lubricant for four minutes.
9. Spin off and dry movements for approximately five minutes, or until dry.

Note: Your Mark V is equipped with a variable speed dryer which permits you to select a suitable speed between 0 - 1500 RPM to obtain maximum results with the various types of solutions.
10. Allow a cool off period of 10-15 minutes.
11. Remove balance assembly with bridge and dip in clean, fresh rinsing solution. Blow dry.
12. Oil upper and lower balance jewels in the usual manner.
13. Clean pallet fork horns with soft pith dipped in rinsing solution.
14. Oil cannon pinion and/or center wheel assembly as per watch manufacturer's instructions.

Note: Length of spin off time and speed after the lubricating rinse, determines the amount of lubrication on all vital points of the movement.

Instructions for usingTwo (2) Step Plastic Lubricants

1. Complete all necessary repairs, before cleaning.
2. Remove dial and hands.
3. Demagnetize the watch, except those having permanent magnets (unless removed).
4. Remove balance and bridge. (This is not absolutely essential).
5. Place watches in cleaning basket in cup using cleaning solution, 2-4 minutes.
6. Remove basket, blot or drain and dip in dip rinse cup of the machine using vertical and circular motion.
7. After dip rinse, blot or drain off excess fluid.
8. Place basket in spin dry cup and spin off all excess fluid.
Note: One plain ultrasonic rinse recommended before step 9.
9. Put basket in cup containing first step plastic lubricant rinse and activate.
10. Remove basket from first ultrasonic rinse, shake gently and blot excess fluid.
11. Place basket in spin dry cup and spin off remainder of excess fluid.
12. Place basket in cup with second plastic lubricant and rinse ultrasonically.
13. Remove basket from second plastic rinse, shake gently and blot to remove excess fluid.
14. Put basket in spin dry cup and spin.
15. Remove basket from spin dry cup and cool to room temperature before proceeding.
16. Demagnetize as in step 3.
17. If balance and bridge were not previously removed, remove them together and dip in clean fresh rinsing solution.

18. Oil upper and lower balance hole jewels.

19. Reassemble watch.

- * A short spin off between each cup is suggested to prevent "carry over" or contamination of solutions.

Note: Refer to special manufacturer's instructions for the type of lubricant being used regarding speed and length of drying.

**SERVICE AND
MAINTENANCE:**

Your Mark V Ultrasonic Watch Cleaner is made of the finest materials and should give years of trouble-free operation.

If your cleaner should become inoperative -- check the following points:

- (A) Check outlet to make sure voltage is present.
- (B) Check fuse on rear of machine. Use only 2.5 amp.
- (C) Make certain that transducer cable plug is plugged in its socket properly.

Should your Mark V require service -- we suggest that you contact the Vibrograf U.S.A. Factory Service Department in Floral Park, New York or your nearest authorized Vibrograf Service Representative.

Should the cabinet have to be removed for any reason, please follow this procedure:

- (A) Unplug machine to prevent electric shock -- remove all cups and accessories from machine -- unplug and set aside transducer.
- (B) Remove timer knob.
- (C) Turn machine upside down -- remove the four corner screws. Carefully remove cabinet from chassis. Do not damage timer switch or dryer control lever.
- (D) Reverse this procedure when repairs have been completed. Make certain to align cabinet properly.

NOTE: A fuse is also located on the inside of the machine. Its value is 1 amp, 250 volt.