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The following file is a rudimentary procedure and you assume all responsibility for its use or any consequences that may be derived from its preparation, storage, or use.

The following is my home made clock cleaning solution formula.

\*\*\*\*\* CAUTION \*\*\*\*\* CAUTION \*\*\*\*\*

This is a fresh air and rubber gloves formula!!!

4 oz. Acetone (Commercial)  
4 oz. Oleic Acid  
4 oz. Any liquid detergent (clothes or dish soap)  
\*\*8 oz. Ammonia (27% Commercial)

First start with a 1/2 gal. of water (the "purer" the better).  
Add acetone and oleic acid until completely blended.  
Then add the detergent mixing well.  
Slowly add ammonia while again mixing well.  
Store in plastic container with tight fitting lid.

When ready to use, mix 1:1 ratio with water.

\*\* It must be noted that if you are cleaning a movement made prior to 1820, that used cast brass for its plates and wheels, then you should clean by hand only. The reason being is that SCC, or Stress Corrosion Cracking, the which is caused by ammonia and especially prevalent with high concentrated ammonia. The best situation, for safety sake, is to use an ammonia free solution and that would include the supposedly "ammonia free" solution, which contain amine, which is an ammonia derivative.

The oleic acid is a strong grease and oil solvent (it will remove oils from the skin too). The ammonia is a good metal cleaner. The acetone serves as an emulsifier so that the oleic acid, ammonia, and water will mix. The detergent acts to remove the common dirt and "holds" the rest of the contaminants.

You can purchase everything above with the exception of the oleic acid and the high concentrated ammonia at your local hardware store. The oleic acid can be purchased at a chemical supply house. The high concentrated ammonia can be found at a printers supply house, or a chemical supply house. Just ask you local high school or college chemistry department where they get their chemical supplies from.

I get all of my chemicals from the following and they ship U.P.S.:

Chem-Lab Supplies  
13814 Inglewood Avenue  
Hawthorne, CA 90250  
310-973-2391  
or

1060 Ortega Way, Unit C  
Placentia, CA 92670  
714-630-7902

The acetone (commercial) comes in pints, gallons, or 5 gallons containers.

The oleic acid comes in either pints or gallons containers.

The ammonium hydroxide (27% commercial) comes in pints, gallons, or 5 gallons containers.

The isopropyl alcohol (99%) comes in pints, gallons, or 5 gallons containers.

After you prepare the above the only question the remains is how to use it to clean a clock or watch movement.

First you will need a final rinse solution. I use commercial grade isopropyl alcohol. This is rubbing alcohol but at a 99% purity. Do NOT use the stuff at the drug store or pharmacy because it's only 70% and you might have rust problems. You should be able to get this from the same source as the oleic acid.

There are simply too many variables to put into a "quick" file. My advice is to purchase a good clock repair book from one of the book suppliers in my file publica.mcc

Bearing that in mind and with the movement disassembled, first remove all strike and chime hammers. These tend to deteriorate and should not be cleaned. Then you place the movement's parts inside some strainers that will fit into your solution container. Turn on the ultrasonic or swish the strainer (it's usually good to do both at a time) around for a minute or so. Any longer then the lacquer will start to peel. If that happens then you MUST remove all of the lacquer. If the movement is very old and/or does not have lacquer, then I like to clean it for five minutes. Any longer then you run the risk of damaging the brass because an ultrasonic will "etch" (scar) brass.

After the cleaner bath you must go directly into a room temperature water container and then directly into another bath of room temperature water (that make three baths so far). After the second water bath, and you could easily add more water rinses, dry it somewhat with a hand dryer or a commercial box dryer. You don't have to dry it completely because the final rinse of 99% isopropyl alcohol will remove all remaining water. The alcohol rinse should be for about 30 seconds. After that dry completely and use a 1,500 watt hair dryer.

Any higher heat in the drying process will start to anneal brass and loosen any solder or shellac than may be present.

A service from, E-mail address: Mike@atmos-man.com  
Mike Murray Founder of Clocksmiths

A specialist in Atmos and 400-day clock repair.  
Also, I overhaul most plug in electric clocks.  
In continuous horological service since 04/01/1982.

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My main Web site is located at "<http://www.atmosman.com/>"

Main FTP site is located at:  
"<http://www.atmosman.com/earthpdf.html>"

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