



## Garver Manufacturing, Inc.

Manufacturers of Centrifugal Testers

224 1/2 N. Columbia St

Union City, Indiana 47390 USA

### **Centrifuge Trouble Shooting - Bottle Breakage**

1. Don't run on start position over 35 seconds. (Applicable only to variable speed centrifuges).
2. Don't run test on inside row of cups unless using the outside row. You may run test with outside cups without using inside cups.
3. See if bottles vary in weight. If so, balance the weight evenly around the cup carrier.
4. Once you have broken bottles, even a small piece of glass left in a cup will keep the test tube from sitting flat and neck will break.
5. Once you have had breakage, we recommend using rubber pads in the bottom of the cup. A small piece of glass will also cause a pressure point on the bottom of glassware and cause bottle breakage.
6. If brake is applied too hard this will snap the bottle from the horizontal position to the vertical and break the bottle necks.
7. Test cup swing. Cup should move from vertical to horizontal position freely. Check manually, swinging cup outward. If cup sticks or hits the rotor arms, adjustment of metal hanger ears on cup is necessary.
8. Paley bottles should be placed in centrifuge so that stopper is towards the center of the rotor and the neck towards the outside.

### **VIBRATION IN MACHINE**

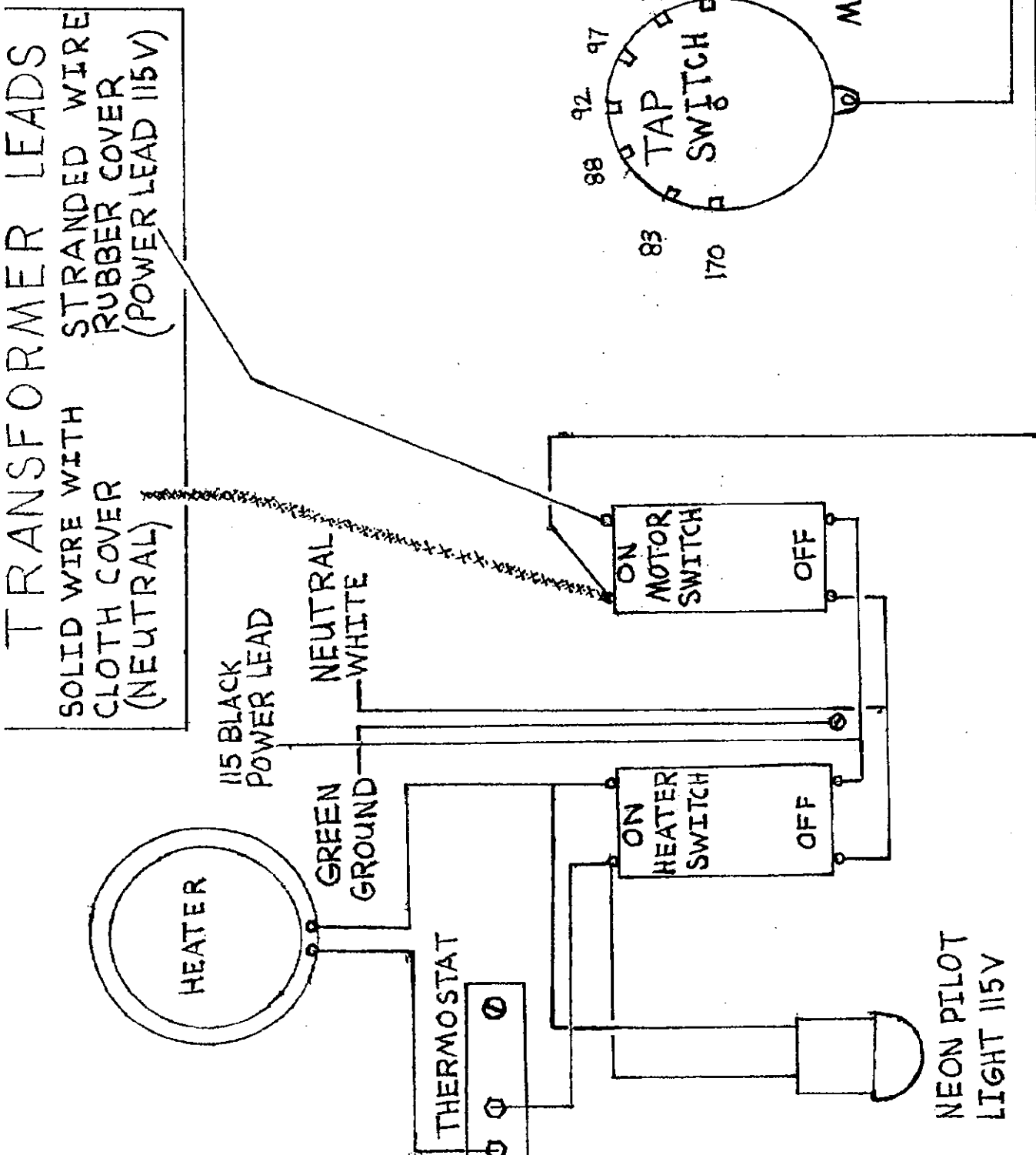
1. Operate machine on a firm bench.
2. Keep Oiled, 30W motor oil.
3. If vibrates when filled then bottles do not balance.
4. Weigh out bottles and balance evenly around machine.

### **TESTER RUNS SLOW**

1. Is machine oiled? Use SAE 30. Check end play which should be only 1/64<sup>th</sup>
2. Check set screw on bottom of motor for wear.
3. If centrifuge is several years old (10 years or more), electrolysis has affected the rotor and rotor needs replaced.
4. Inside of bowl must be kept clean from sludge and broken bottles.
5. Low voltage in laboratory.
6. Glassware rotor is dragging on brake.
7. Set screw and ball bearings worn.
8. Motor shaft bearing worn.

### **TESTER WILL NOT START**

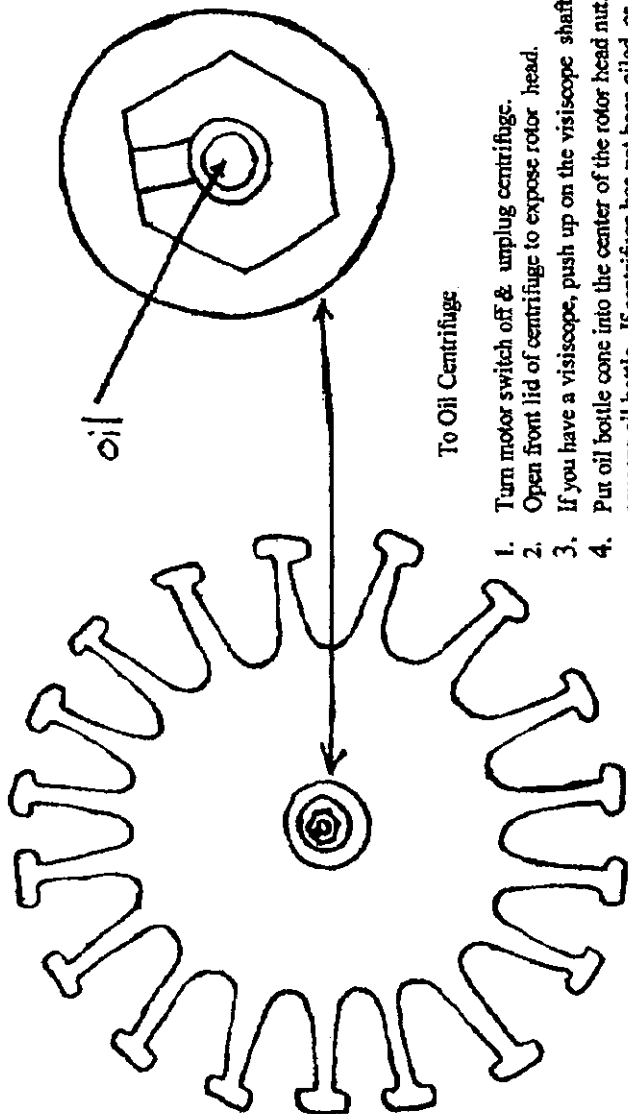
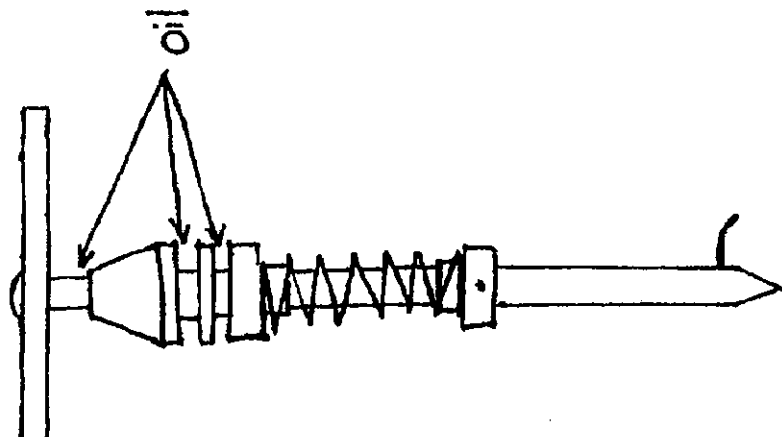
1. Turn machine on. Open lid and spin rotor. If centrifuge starts-Shut lid and let run 5 minutes, Repeat every 10 minutes or until centrifuge will start under its own power (possible problem is motor bearings are not aligned or bearings are too tight).
2. Brake may be dragging. Check brake handle by pushing down to see if there is any movement in brake.
3. Check receptacle for current.
4. Check on & off switch. NOTE: Some centrifuges have no switch.
5. Check electrical cord for continuity.



SCHEMATICS FOR SERIAL  
 NUMBERS 0 THRU ALL WITH NEON PILOT LIGHT

PHONE: 1-765-964-5828  
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# CENTRIFUGE

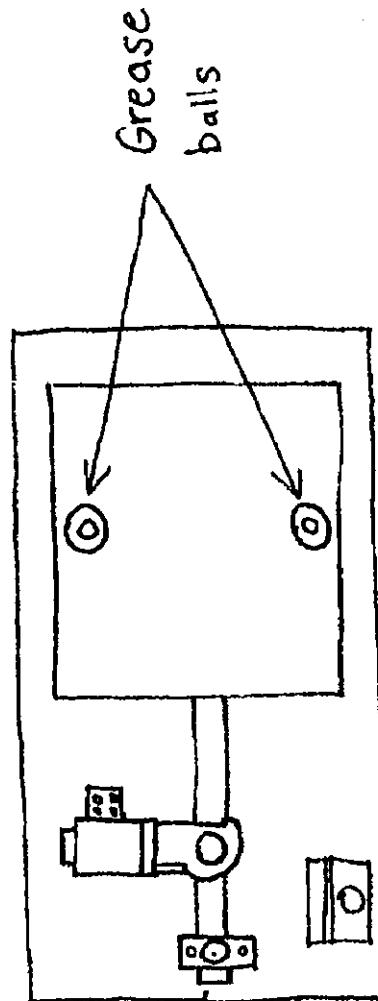
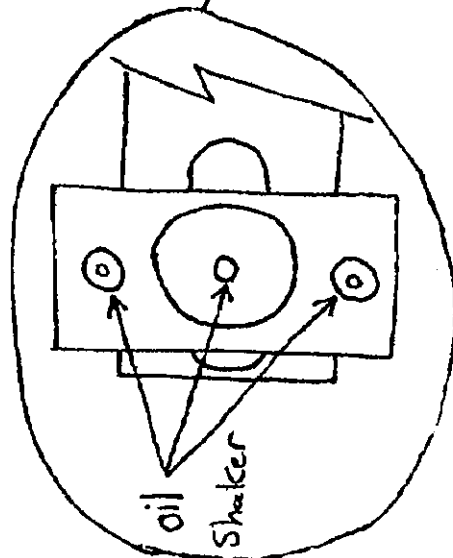


To Oil Centrifuge

1. Turn motor switch off & unplug centrifuge.
2. Open front lid of centrifuge to expose rotor head.
3. If you have a viscopipe, push up on the viscopipe shaft.
4. Put oil bottle cone into the center of the rotor head nut, and squeeze oil bottle. If centrifuge has not been oiled, or has run dry it may take as much as 3oz. to fill motor shaft. Motor shaft is hollow, and must be filled to oil top bearing. Over oiling will not hurt the centrifuge, but may leave a small puddle of oil on your bench top.

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# SHAKER



Grease balls