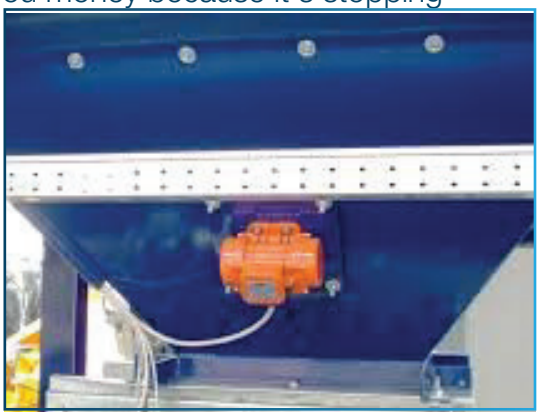
Why Won't My Rotary Electric Vibrator Start?

By Rob Beiersdorfer

There are numerous issues that could cause a rotary electric vibrator to not start properly. These can range from an electrical issue to faulty equipment. If you're having issues getting your vibrator motor to run, not only is it a maintenance nuisance, but it's also costing you money because it's stopping production output. There are several common reasons why vibrator motors fail to start. It's important that you have an experienced technician analyze the issue as soon as possible, so you can rectify the problem(s) and get the vibrator back up and running. Let's dig in...



Most Common Electrical Problems:

- **Wiring Isn't in Good Gondition:** It might be that the wiring has come loose, or simply it's the wrong gauge. You might also have broken or frayed wiring. Any of these issues could prevent the vibrator from starting. Make sure you carefully inspect all of the wiring in the starting circuit of the vibrator. It's also a good idea to check the motor diagrams in your owner's manual so you can follow the wiring path without having to guess.

- **Starter Coil is Bad:** It might simply have worn out over time due to use. There's also a chance that a starter coil that has been recently replaced could prevent the motor from starting if incorrect parts were chosen for the replacement. If you don't notice any signs of damage to the starter coil, you should make sure you're using the correct coil size before you take any additional steps, such as another replacement.

- **Fuses Need Replacement:** This is perhaps the most common problem resulting in electric vibrators failing to run efficiently. If a fuse blows somewhere in the system, you'll need to replace it with another fuse of the exact same amperage, and you'll need to reset the breaker before trying to restart the vibrator. There are a variety of reasons why fuses blow, the most common being excessive draw of electrical current. So, if the problem happens repeatedly, you might need to make some additional repairs to the vibrator to prevent these electrical current issues from continuing to cause problems.

- **Starting Capacitor (single-phase vibrator):** Not every make of single-phase vibrator will use a start or run capacitor, but for the ones that do, it's important that you check the capacitors to make sure

AIRMATIC
airmatic.com | 215.333.5600 | infocenter@airmatic.com

they're in good condition and that they are of sufficient size to store the energy needed to drive the vibrators. An undersized or damaged capacitor will limit the amount of energy that can be stored and used to start the vibrator.

- **Control Switch Contacts:** Carefully examine the control switches. If they're burnt, dirty or corroded, this could prevent electricity from properly flowing through the motor. You should check the control switch contacts if motors do not start; if they're dirty, they are frequently able to be cleaned and reused.

Most Common Mechanical Problems:

- **Weights Not Tight on Motor Shaft:** A loose weight system, which causes the shaft to rotate intermittently with or without the weight mass moving, can cause amperage fluctuations. These high amp draws could cause electrical overloads which won't enable the vibrator to start, or worse, could cause bearing damage and or failure.

- **Mount Plate Corrosion:** Carefully examine the mounting plate for corrosion which could allow the vibrator to move independently from the mount. This movement could cause starting issues or damage to the vibrator mounting system. If corrosion is found it must be removed prior to running the vibrator.

- **Mount Plate Flatness:** An out of flat mount plate (> ± .010" across mount holes), could cause the vibrator housing to twist which, in turn, can prevent starting or cause the rotor to hit the stator. If a flatness issue is found, the mount plate must be machined to the proper flatness requirement.

- **Structural Damage:** If any structural damage or issue is found, such as missing hardware, or physical damage, such as a cracked plate or structural member, a vibrator could struggle to start. Simply replacing the missing hardware and/or performing structural repairs to the equipment should eliminate vibrator starting issues.

Conclusion:

These are a few examples of what could cause a vibrator starting issue. Simply stated, sound electrical and mechanical maintenance of your vibration system will eliminate many starting issues associated with rotary electric vibrator motors.

Rob Beiersdorfer is Vibration Products Manager at AIRMATIC and has over 30 years of applied vibration experience in a wide range of industries.

Thanks for reading our post. If you'd like to learn more about rotary or linear industrial vibrators, or vibratory motors and equipment, please contact one of our Vibration Specialists at +215-333-5600 or at infocenter@airmatic.com.