Making sure your pot is clean (and, no, it's not that kind…)

Have you ever experienced a fluctuation in the speed of your press as it runs?

The problem may be a $2.50 part.

Many newspapers have presses equipped with a motor-operated potentiometer (MOP), which controls the speed of their machine.

A potentiometer (pot) is a variable resister, manually controlled, and used primarily to vary voltage. Simply put, the pot controls the voltage level from zero to whatever the maximum voltage happens to be – in the case of presses, 10 volts.

A basic pot is used on small presses, where it is only needed to control the speed of the press from one location, such as the folder.

A motor-operated pot, by contrast, is used on presses where it's desirable to control the machine from various locations, such as reel stand or reel room locations or maybe from the press' upper level.

The device's automation comes from a small motor attached to the shaft of the pot. The MOP is also equipped with some cam-operated switches. The switches interrupt the voltage supply to the small motor, thus stopping the motor when it's reached the extreme ends of the pot's travel.

When the "faster" button is pressed the motor will travel until the top speed cam switch opens. On the other end of the equation, when the "slower" button is depressed the motor travels in the reverse direction until the minimum speed cam switch opens.

At some point a MOP's components will break down, causing it to act erratically. The major reason this happens is because pots become dirty. Dirty pots will cause the variable source voltage to fluctuate, which internally will cause the press to speed up or slow down erratically.

When this happens, clean or replace the pot. The best option may be to replace the MOP with a digital speed control.

A digital speed control can be obtained from your press' manufacturer or, if you wish, you can make your own.

The brain behind a DSC is a programmable logic controller. An optional output analog card might be required if the PLC doesn't have one.

The PLC does not have any moving parts that get dirty, which eliminates the problem experienced with legacy MOPs. – *NT*