

ANDROMAT TODAY

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Achieving Parallelism

"Machine set up and after potentiometer replacement"

Scott Wilson

Henschel Andromat Inc

Here's the scenario. Your Andromat is behaving badly. The operator complains that the work arm is bouncing or has a "dead" spot during either the elbow or shoulder movements. You have determined that a potentiometer (poti) is bad and you replace it. Now the work arm will not move or it moves but is far from parallel to the master arm. What do I do?



Use caution when working with live voltages!

Initial Poti Setup

Let's say you are replacing the poti for the shoulder work arm. One method for setup is to have the voltage of the new poti match that of the failed unit. First place the work arm in a safe, down position. In the measure

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Henschel Andromat Inc

Come To The "A" Team

160 Commercial Court

Alabaster, AL 35007

P- 205.664.2484

F- 205.664.2481

www.andromatusa.com



Feb. 14th is Valentines

"Don't Forget Your Sweetie"



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mode, measure the voltage output of the poti. This can best be done at the terminal blocks inside the Andromat electrical cabinet. On most machines this will be terminal block 2X2, terminals 39-59.

Your measure points will be the terminals connected to pins 2(+) and 4(-) of the potentiometer. Once you have the value, rotate the axle of the newly installed poti until it too outputs the same voltage. Only minor adjustments may be required thereafter. If your machine has a touch screen, all this info can be found within the maintenance sections. Remember to remove all power while making any solder connections.

Adjusting Work Arms Back to Parallel

Another scenario could be that the operator complains that the work and master arms are not parallel. How do I fix this? According to table 1.2.3 of the Andromat technical publication, "Potentiometers Adjustment", there are expected voltage outputs for a given arm position; one table for full scale master arms and another for ½ scale master arms.

Using the remote potentiometer (tickle box), move the work arm in question to a "known" position. The most obvious position(s) would be horizontal for the elbow and vertical for the shoulder arm. In looking at the table 1.2.3, the voltages for these positions should be zero. With the arms properly positioned, rotate the corresponding poti until its voltage output is zero. Assuming the master arm is properly set up, the master arm and work arm should now be parallel.

"Potentiometer voltage readings can be found in the maintenance section of the touch screen"

Master Arm Potentiometers

The steps we have taken thus far for proper setup of the work arm potis also applies to the master arm. The master arm potentiometers operate the same as the potis on the work arm. Trouble shooting and adjusting are similar as well.

Conclusion

The proper setup and adjustment of the Andromat potentiometers will provide the optimum level of operator pleasure and ease of operation. Routine checks of potentiometer settings will often help to discover failing potis.

Note: *Andromat Today* is "your" publication. We here at Henschel Andromat USA want to ensure that "you" our customers are getting all necessary information for helping your operations run as smoothly as possible. If you have a question or know something you would like to see published, send us a note or give us a call.

1.2.3 Table for Voltages of the Potentiometers

Full Scale Master Arm

Axis	Degree	Position	Master Arm	Work Arm
Rotation (Azimuth)	10.0°	Full left	-0.882V	
	0.0°	Full front (center)	0V	
	10.0°	Full right	+0.882V	
Elbow	30°	Full upward	+2.647V	-2.647V
	0°	Horizontal	0v	0V
	20°	Downward	-1.765V	+1.765V
	60°	Full downward*	-5.294V	+5.294V
Shoulder	40°	Full back	-3.529V	+3.529V
	0°	Vertical	0V	0V
	35°	Full forward	+3.088V	-3.088V

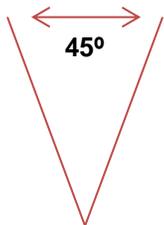
*Not always possible, (depends on machine type).

½ Scale Master Arm

Axis	Position	Master Arm		Work Arm	
		Degree	Voltage	Degree	Voltage
Rotation (Azimuth)	Full left	10.0°	-0.882V		
	Full front (center)	0.0°	0V		
	Full right	10.0°	+0.882V		
Elbow	Upward	10°	+0.85V	30°	-2.647V
	Horizontal	0°	0v -	0°	0V
	Downward	24°	2.05V	20°	+1.765V
	Full downward*	-----	-----	60°	+5.294V
Shoulder	Full back	24°	-2.05V	40°	+3.529V
	Vertical	0°	0V	0°	0V
	Full forward	21°	+1.79V	35°	-3.088V

*Not always possible, (depends on machine type).

24° = -2.05V
21° = +1.79V



45° = Δ3.85V

