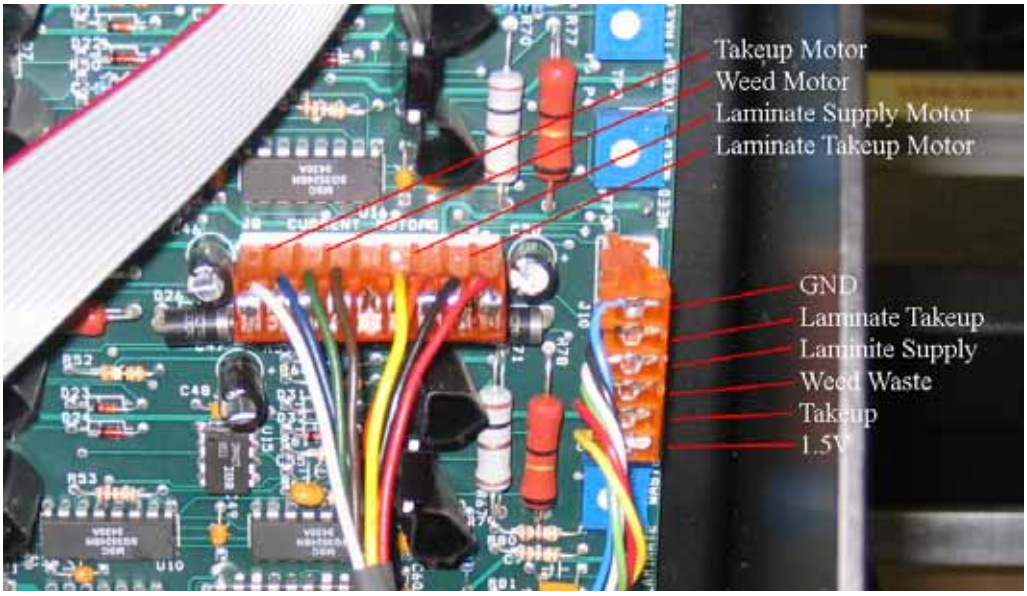
Technical Support Bulletin:
Testing Mandrel Motors

Technical Support Bulletin (Last update 8-2-6)

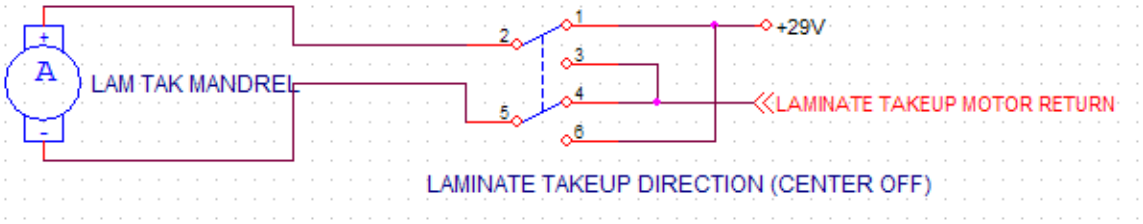
Abstract: If you have a problem with one of the Mandrel's not operating you can use this troubleshooting procedure to determine if problem is in the circuit board, the pot or the motor.



The photo above shows the mandrel motor connections and the mandrel pot connections to the control circuitry. J8 is routed to the reversing switches on the front panel and then to the motors. J10 is routed to the pots on the front panel

J8 pin out is as follows
White/blue to takeup motor (pins 1&2)
Green/brown to weed motor (pins 3&4)
Yellow/orange to laminate supply motor (pins 6&7)
Red / black to laminate takeup motor (pins 8&9)

Reversing switches are wired as follows:



Given these connections it can be noted that the wiring for J8 is such that if you install the J8 connector on upsidedown you reverse the direction of each motor and which motor is controlled by which control circuit.

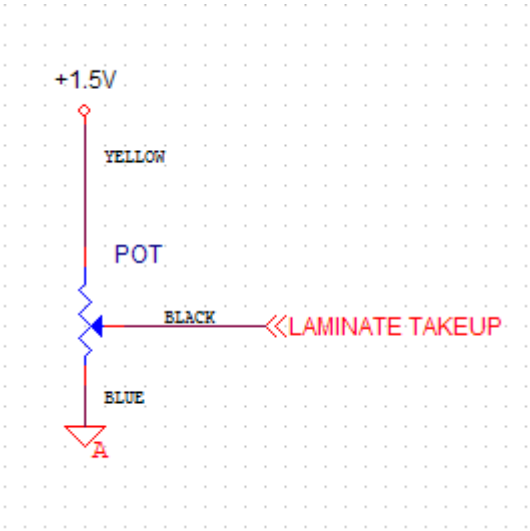
So if you have one mandrel that is not working you can determine whether the motor/reversing switch is bad or the webamp/pot control circuit is bad by installing J8 on the web amp board upside down. There is a right angle piece of plastic the will inhibit the easy installation of this connector upsidedown but it can be overridden by pushing it out of the way while pressing the connector on.

J8 Connection

Motor Controller	Normal orientation	Upside down orientation
Takeup Motor	Takeup Motor	Lamintate Takeup Motor
Weed Motor	Weed Motor	Laminate Supply
Laminate Supply Motor	Laminate Supply Motor	Weed Motor
Laminate Takeup Motor	Laminate Takeup Motor	Takeup Motor

That is when you have the connector on upsidedown the Takeup control pot on the front panel will control the Laminate takeup motor. If the same motor still does not work with the connector on upside down the problem is the motor or reversing switch. If the motor that does not work changes then the problem is the webamp or control pot.

J10 is the mandrel control pots connector. The 1.5V and Gnd go to ends of each pot and each of the 4 other wires goes to the wiper of the pot. Example of connection shown below:



To determine if the problem is the control pot or the webamp board you can use a DVM set to DC volts with black wire connected to GND on connector (blue wire on photo) measure the voltage at pins 2, 3, 4 or 5 on J10. As you turn the associated pot on the front panel the voltage on the control pin should change between 0V and about 1.5V. If the voltage changes the problem is on the board. If the voltage does not change the problem is in the pot.

Part Numbers:
Torque Pot:
Mandrel Motor
Web Amplifier PL-00-05-101-3 (please indicate your current revision when ordering)
Reversing Switch: (not present on all machines shipped)