Right Angle Transfer Troubleshooting

This chapter includes general guidelines and troubleshooting tables as an aid in isolating and recovering from malfunctions. ***ONLY QUALIFIED, AUTHORIZED PERSONNEL SHOULD OPERATE OR MAINTAIN EQUIPMENT***.

Proper troubleshooting is finding the cause of a problem and correcting it in a safe and systematic manner. A change in the system often causes trouble. An understanding of the system, its modes of operation, and how these modes are to work will aid in finding the cause of the trouble.

⚠WARNING⚠

- Ensure that all requisite safety precautions are taken while diagnostic procedures are performed.
- Before attempting any maintenance or service operation, make sure that:
  - You do not begin any repair procedure until the proper shutdown procedures and the appropriate power lockout procedures have been applied.
  - The system is de-energized; main electrical switches are open.
- Some maintenance/troubleshooting procedures require the equipment to be running to perform the procedure. In this case only one person should be in command of operating the equipment in maintenance mode only. Constant communication with the person commanding the equipment should be maintained through the procedure.

Problem	Possible Causes	Remedy
Eccentric lifting table does not move	Gearmotor does not run	• Check wiring and plugs.
		• Motor diagnosis.
		• Replace gear motor.
	Broken toothed belts	• Replace belt.
	Malfunctioning control	• Diagnostic program.
Skid speed too high / low	Malfunctioning control	• Diagnostic program.
Wrong Skid stop position.	Position of proximity switch wrong	• Re-adjust proximity switch.
	Proximity switch defect	• Replace proximity switch.
Skid pulls to a side	Cam Rollers are defect / broken	• Replace Cam Roller.
	Track Guide Rollers on defective, vertical height not properly adjusted	• Re-adjust vertical support, replace Guide Roller.
	Eccentric shafts are not correctly synchronized	• Dismantle belts and synchronize belts on both shafts.

Problem	Possible Causes	Remedy
Noise with / without vibrations.	One main assembly is defective.	• Check all main assemblies on loose pieces and foreign parts.
	Toothed belt tension too low.	• Re-adjust toothed belt tension.
	Cam Roller make noise	• Replace Cam Roller of eccentric/timing belt pulleys.

Skillet Power Roll Bed Troubleshooting

(Mounted on Lift Table)

Problem	Possible Cause	Remedy
Skid does not move	Gearmotor does not run	• Check wiring and plugs. • Gearmotor troubleshooting. • Replace gearmotor.
	Broken toothed belts	• Replace toothed belt.
	Carrying rollers are soiled with oil	• Clean rollers.
	IDC defective	• Replace IDC.
	Proximity switch(es) defective or loose	• Replace or readjust proximity switch.
Skid speed too high / low	Malfunctioning control	• Diagnostic program.
Wrong Skid stop position	Wrong proximity switch position	• Readjust proximity switch.
Noise with / without vibrations	Loose parts	• Check module for loose parts and parts that do not belong.
	Worn belt	• Replace toothed belt.
	Bearings of carrying rollers defective or worn	• Replace carrying rollers.

General Troubleshooting

Device Type	Typical Devices	Action
Re-settable	• Light screens • Access Gate Boxes/Safety Plugs • E-stops	Visually inspect the protection area devices and reset any tripped devices.
Power Distribution	• Circuit breakers • Contactors/Relays • Connection	Check that power is distributed to the control panels, field devices, and components.
Processing	• PLC Processor • Input/Output Modules	Check the Main Control Panel processors and I/O modules for proper operation.
Communication	• EtherNet Module • DeviceNet Module	Check the Main Control Panel EtherNet and DeviceNet Modules for proper operation.
Machinery	• VFDs • Motors • Switches/Sensors • Connection System (cables/cords)	Follow a clear and logical approach to determining a failed device. Eliminate components that are a quick fix.