Troubleshooting Tree for Punch on Magnus VLF

Subsystem	PROBLEM	SYMPTOM	CAUSE	SOLUTION
Punch Plate Deflector	Deflector will not drop down (Error 40870)	You get an error message telling you the Deflector has not dropped	Air valve did not activate	Use the manual override on the valve to confirm if it is functioning or not and then replace the valve or wire as necessary
			Air cylinder is stuck, not connected to air lines, or it's mounting has come loose	Replace air cylinder, air lines, or mounting as necessary
	Firmware tells you the Deflector has not dropped, but it is in fact down (Error 40870)	Firmware tells you the Deflector has not dropped, but it is in fact down	Deflector sensor is defective	Replace Deflector sensor
Registration Bar	Plate not being grabbed by the Registration Bar vacuum cups (Error 40872)	All the vacuum cups are not grabbing the plate	Vacuum is not reaching the vacuum cups	Check the air valve, hoses, wires, vacuum generators, and Genine board are trying to turn on the vacuum cups, and replace the item that is at fault
		Some vacuum cups are not grabbing the plate, or grab it intermittently	The vacuum cups sealing surfaces are dirty	Clean the vacuum cup sealing surfaces (do not push dirt into the centre of the vacuum cups or it may clog up the orifice in the centre of the cup)
			The orifices in the centre of some of the vacuum cups are plugged	Clean or replace the clogged orifice
	Registration Bar does not move forward, or moves only partly forward (Error 40873)	Registration Bar does not move forward, or moves only partly forward, so it does not achieve leading edge registration in the Punch Extrusion Bar	The electronic pressure regulators are not working properly	replace the electronic pressure regulators

			The electronic pressure regulators are not putting out enough air pressure to move this brand of plate	If it looks like all plate sizes are slow to move into registration it may be a plate material issue and you should adjust the plate force NVS parameter that covers all plate groups, but if it looks like it is specific to one plate size, adjust the NVS parameter for that plate group only
			The air bearings under the Registration Bar are not working properly and allowing contact with the tray they sit in	Check that the air valve, hoses, wires, and Genine board are trying to turn on the air and replace the faulty item Clean the area that the air bearings run on Check for tears or damage to the UHMW tape that the air bearings run on in the tray and replace the tape
			Air and vacuum hoses are binding and causing the Registration Bar to move unevenly or poorly	Free the binding so the Registration Bar can move freely
Side Registration Pin	Plate does not achieve side registration (Error 40874)	Once plate hits Rotary Reg Pins it is already too far over so Side Reg Pin can not contact it	Spring is missing that pulls the Registration Bar toward the Side Reg Pin	Reattach the spring
		Plate hits Rotary Reg Pins, but once the Side Reg Pin moves the plate into position and then stops, it loses side registration.	Spring is missing that pulls the Registration Bar toward the Side Reg Pin	Reattach the spring

Side registration is not accurate or wanders plate to plate	The customer complains of having to make very large adjustments for subscan on his press for each plate	Side Reg Pin may not be pivoting to allow it's flat side to fully contact the plate edge therefore it contacts the plate differently each time	Check that the Side Reg Pin pivots freely and free up any wire or item that may be rubbing or impeding this free rotation
		Edge Detect Camera did not detect the edge correctly	Check the images from the Edge Detect Camera and fix the camera
		The TEH's Edge Detect Camera is not detecting at the correct place along the plate edge	Check the position of where the Edge Detect Camera is checking for the edge (it is an NVS parameter)
		The leadscrew for the Side Reg Pins is wandering axially because the preload on the leadscrew's bearings was set incorrectly	Rest the Leadscrew's bearing preload (this is set at the factory and should not need adjustment so contact the factory before doing this -incorrect preload setting will cause poor punch registration performance).
	The customer complains that the subscan position of the plate on his press varies beyond our specification	The vacuum cup closest to the Side Reg Pin has not grabbed the plate, therefore allowing the plate to locally distort where the Side Pin hits it	Clean the vacuum cup sealing surfaces (do not push dirt into the centre of the vacuum cups or it may clog up the orifice in the centre of the cup) and check that the orifice in the cup is not plugged
Noisy Side Reg Pin leadscrew	Customer complains of noise when the Side Pin leadscrew is running	The Sorbothane damper that sits against the leadscrew's traveling nut is missing or poorly installed	Install the Sorbothane damper against the leadscrew's traveling nut
The plate's subscan punching position is incorrect but consistent plate to plate	The customer complains that the subscan position of the plate on his press is always too far to one side	The NVS parameter for that plate's subscan position is set incorrectly	adjust the NVS parameter for that plate's subscan position

Punch Extrusion Bar	Chips are falling onto the Imaging Drum etc	Customer complains of finding punch chips in his machine	The gasket under the punch is missing	Install the gasket (if you must remove the punch to do this then you must realign the punch for accuracy in the subscan and mainscan directions)
	Punch does not punch a hole in the plate	Customer loses holes in his plates that used to be there	Punch motor is broken	Remove the motor off the punch and clean and lubricate them, or replace motor as required (if you remove or disturb the punch body itself, you must then realign the punch for accuracy in the subscan and mainscan directions)
	Punch motor home sensor is not functioning properly (Error 40288)	Firmware reports that the punch motor timed out and did not reach home	Daphne board or wire are faulty Punch motor home sensor is not adjusted properly or sensor is faulty	replace board or wires Adjust Punch motor home sensor or replace as required
Leading Edge Rotating Registration Pins	Rotary Reg Pins do not return once rotated	The customer complains that the mainscan position of the plate on his press is wrong, or is wandering	One of the Rotary Reg Pins that is not required is stuck in the "out" position. This allows the plate edge to hit this Rotary Reg Pin as well as the correct Rotary Reg Pins, so the plate is getting distorted and not registering correctly	Free up the Rotary Reg Pin that is sticking "out", or replace that pin's spring, or replace that stuck Rotary Reg Pin as required (note that if you replace a Rotary Reg Pin than you have to go through an alignment procedure on the new pin in both subscan and mainscan

	Rotary Reg Pins are sticking and requiring too high a force to rotate	The customer complains that the mainscan position of the plate on his press is wrong, or is wandering	The bearings are binding in one of the Rotary Reg Pins so the pin can not rotate when the plate is pushed sideways against it (by the Side Reg Pin). This scuffing causes the plate to deposit aluminum onto the accurate face of the sticking Rotary Reg Pin which then lowers the mainscan position accuracy (the plate may rest on this deposit rather than the Rotary Reg Pin's surface)	Free (and clean the face of) the Rotary Reg Pin, or replace the Rotary Reg Pin as required
	Rotary Reg Pin will not rotate "out"	The customer complains that the mainscan position of the plate on his press is grossly wrong	The bearings are binding in one of the Rotary Reg Pins so the air cylinder can not rotate the pin to the "out" position	Check that the air valve, hoses, wires, and Genine board are trying to send air to the Rotary Reg Pin and replace the faulty item
			The bearings are binding in one of the Rotary Reg Pins so it will not rotate	Free (and clean the face of) the Rotary Reg Pin, or replace the Rotary Reg Pin as required
Chip Collection System	Chips fail to clear out of the hollow Punch Extrusion Bar	Chips clear in a non-consistent manner (no chips clear one time, then a lot clear the next time)	The air amplifier is not receiving air	Check that the air valve, hoses, wires, and Genine board are trying to turn on the air and replace the faulty item
			The docking gasket above the air amplifier is leaking	Replace the gasket
			The piping is plugged downstream of the air amplifier	Unplug the piping
		Firmware says that the air is not flowing fast enough to clear the chips (this is not in CR4.0 but will be in CR4.1)	The air amplifier is not receiving air	Check that the air valve, hoses, wires, and Genine board are trying to turn on the air and replace the faulty item

			The docking gasket above the air amplifier is leaking	Replace the gasket
			The piping is plugged downstream of the air amplifier	Unplug the piping
			Mass airflow sensor is not working (this is not in CR4.0 but will be in CR4.1)	Check that the mass airflow sensor, air lines, wires, and Genine board are connected and working properly, and replace the faulty item (the mass airflow sensor hardware is not in CR4.0 but will be in CR4.1)
		Customer complains that his punch accuracy has degraded	Chips are not getting cleared out of the Extrusion so they have built up and have disturbed the punch as it tried to push even more chips down	Clear the chips out of the extrusion, fix why they were not clearing, and then realign the punch for accuracy in both mainscan and subscan directions
	Chip bin is full	Chips fall onto the floor over the top of the chip bin	Chip bin is full and the chips are spilling out through the gap above the top of the bin	Empty the bin. This spilling is normal and is an indication that the bin is full and needs emptying.
Service Access Lifting Mechanism	The Punch system is not docked down low enough (Error 40877)	The firmware says the Punch system is not docked forward properly	When the Punch system was lowered after the last service access, it was not lowered until the blue indicator light beside the crank arm turned off	Pull out the Punch system, install the crank handle, and lower the punch until the blue indicator light goes out.
	The Punch system is not docked forward far enough (Error 40878)	The firmware says the Punch system is not docked forward properly	The Punch system was not pushed in all the way and therefore did not trip the appropriate docking sensor	Push the Punch system in all the way

	The lifting mechanism is binding	When cranking up the Punch system for service access, the handle becomes hard to turn and binds	Poor adjustment of the bearings in the worm gear set	Contact Engineering before adjusting any part of the service access hardware (the unit is heavy so improper adjustment may cause injury)
			Worm gear set is mismatched, worn, or binding	Contact Engineering before adjusting any part of the service access hardware (the unit is heavy so improper adjustment may cause injury)
Kicker	The kicker times out	Firmware reports kicker did not reach away / home position	The kicker does not move	Check that the solenoid valve is working by pushing the button on the valve. If it does not move, then check the kicker cylinder lines for pressure. This way you can determine if it is electrical or pneumatic.
			Kicker cylinder home/away sensors not working	check that when tripped, the sensors report properly in firmware. If not, then check each sensor individually with manual sensor checking tool.