

## GRAVURE TROUBLE-SHOOTING GUIDE

DEFECT	PROCESS PROBLEM	PROBABLE CAUSE	TEST	POSSIBLE REMEDIES
<b>CHATTER</b>	Incorrect blade setting	Blade angle too sharp Too much blade pressure		Flatten blade angle Reduce blade angle
	Blade too sharp	High pigment ink sharpening blade	Solids test	Replace ink if out of spec
<b>INK FLOW</b>	Uneven ink flow from fountain	Dried ink on fountain Fountain set up incorrectly		Clean off the fountain Remount fountain
	Too little ink flow from fountain	Fountain too far away from cylinder Ink flow valve not open enough Ink filter clogged Ink pump not operating correctly Fountain baffles are plugged or bent	Pressure gauge	Adjust fountain closer to cylinder Open valve wider / check for blockage Change ink filter Replace ink pump Clean / adjust baffles
	Too much ink flow from fountain	Fountain too close to cylinder Ink flow valve open too wide		Adjust fountain away from cylinder Close valve slightly
<b>PICKING</b>	Ink not drying completely on web	Low temperature in dryer Low air flow in dryer Low steam pressure to dryer Press speed too high (small dryers only)	heat gun magnehelic	Raise dryer temperature Increase dryer air flow Notify maintenance Decrease press speed
	High ink viscosity	Solvent evaporation from ink	viscosity test	Slowly add more solvent to ink
	Incorrect pressure on impression roller	Too much pressure on Impression roller Too little pressure on impression roller Impression roller is the wrong diameter Dirty impression roller Defective / uneven impression roller	measure nip flat area measure nip flat area durometer Tester	Decrease roller pressure Increase roller pressure Change roller durometer Clean the impression roller Change the impression roller
	Chill rollers too warm	Water supply not cold enough / not flowing	heat gun	Notify maintenance

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C H A N N E L I N G	Incorrect solvent blend	Solvents blended incorrectly  High room temp causing evaporation	G.C. test	Have ink room adjust solvent blend <b>(Add NPA for P-200 ink system)</b>  Notify maintenance
	Incorrect blade setting	Blade angle too sharp  Blade too thin		Flatten blade angle  Replace Blade
	High ink viscosity	Solvent evaporation from ink	viscosity test	Slowly add more solvent to ink
	Cell walls on cylinder too wide	Cylinder engraved incorrectly  Cylinder worn	microscope	De-chrome & Re-chrome cylinder  Replace cylinder  De-chrome & Re-chrome cylinder  Replace cylinder
	Too much air blowing on cylinder	Scum blower setting too high  Fan or draft blowing on cylinder	puff tester	Lower air setting or turn off scum blower  Redirect air flow
	Chill rollers too warm	Water supply not cold enough / not flowing	heat gun	Notify maintenance
	Incorrect pressure on impression roller	Too much pressure on Impression roller  Impression roller is the wrong diameter  Defective / uneven impression roller	measure nip flat area  durometer Tester	Decrease roller pressure  Change roller durometer  Change impression roller
	Ink temp too high	High room temperature  Impression nip point friction  Too much agitation of the ink		Notify maintenance  Install ink chillers  Decrease impression roller pressure  Check the ink pump
	Ink not thoroughly mixed	Ink pump not operating correctly	pressure gauge	Change ink filter  Unclog agitator elbow  Replace pump

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<b>M O T T L E</b>	Low ink Viscosity	Too much solvent in ink	viscosity test	Add new ink to old ink Replace ink
	Ink is not thoroughly mixed	Ink pump not operating correctly  Ink not properly mixed at formulation	pressure gauge	Change ink filter Unclog agitator elbow Replace pump Return to ink room for mixing
	The ink has been "SHOCKED"	Solvent poured too quickly into ink		Replace ink
	Incorrect blade setting	Blade angle too flat Blade too low relative to nip point		Sharpen blade angle Raise blade closer to nip point
	Insufficient pressure at the nip point	Too little pressure on the impression roller Impression roller is wrong durometer Uneven wax coating weight on stock paper	measure nip flat area	Increase pressure to the roller Change the roller to a harder durometer Change the paper
	Incorrect cylinder engraving	Engraving too deep / too shallow		Replace the cylinder
<b>STREAKS</b>	Dirty blade	Dried bits of ink in the ink  Metal bits in the ink Paper dust contaminating blade Dirty rollers contaminating blade		Clean / change blade Filter ink Filter ink with magnet Check press vacuum system Clean rollers
	Blade not oscillating	Mechanical failure		Notify Maintenance

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<b>I N K  S P L A S H</b>	Too much ink flow from fountain	Ink flow valve open too wide		Close valve slightly
	Ink flowing over splash guard	Blade angle too flat		Adjust blade angle
	Ink splash guard leaking	Splash guard set up incorrectly		Reset splash guard inside ink pan
	Hose to fountain leaking	Hose fitting not securely attached Hose gasket worn, missing or broken Hose has a hole in it		Tighten hose fitting Replace gasket Replace hose
	Fountain baffle / ink splash deflector is missing	Baffle set up incorrectly		Replace fountain baffle Set up ink splash deflector
<b>S C U M</b>	Ink film not drying on the non print area of the cylinder	Not enough air blowing on cylinder  Press speed too fast (small dryers only)		Turn on scum blower Increase scum blower air setting Decrease press speed
	Cylinder surface is too rough	Cylinder not polished enough	RZ test	Buff the cylinder Replace the cylinder
	High ink viscosity	Solvent evaporation from ink	viscosity test	Slowly add more solvent to ink
	Worn blade	Running for long periods of time Rough / high cylinder edges		Replace the blade Have cylinder filed down
	Incorrect solvent blend in ink	Solvents blended incorrectly	G.C. test	Have ink room adjust solvent blend (add IPA for P-200 ink system)
	Incorrect blade setting	Blade angle too flat Blade too close to nip point Blade too thick		Sharpen blade angle Lower blade away from nip point Change blade

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C O L O R  O F F	High ink viscosity	Solvent evaporation from ink	viscosity test	Slowly add more solvent to ink
	Low ink viscosity	Too much solvent in ink	viscosity test	Add new ink to old ink Replace ink
	Color mis-match at the ink room	Wrong formulation used		Replace ink
	Ink not thoroughly mixed	Ink pump not operating properly  Ink not properly mixed at formulation	pressure gauge	Change filter Unclog agitator elbow Replace pump Return to ink room for mixing
	Incorrect blade setting	Blade angle too sharp or flat Blade too high / too low relative to nip point Blade too thick / too thin		Adjust blade angle Adjust blade height Replace blade
	Cylinder cells too deep / too shallow	Cylinder is incorrectly engraved		Replace cylinder
	Wax coating weight on paper uneven	Defective coating on stock paper		Change paper
D R A G S	Dirty blade	Dried bits of ink in ink  Metal bits in ink Paper dust contaminating blade Dirty rollers contaminating blade		Clean / change blade Filter ink Filter ink with magnet Check press vacuum system Clean rollers
	Incorrect blade setting	Blade angle too sharp or flat Blade too low relative to nip point Blade too thick		Adjust blade angle Raise blade closer to nip point Replace blade

[ DRAGS CONTINUED NEXT PAGE ]

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DEFECT	PROCESS PROBLEM	PROBABLE CAUSE	TEST	POSSIBLE REMEDIES
<b>DRAGS (CONTINUED)</b>	Chrome nodules on cylinder	Cylinder buffed incorrectly		Re-buff cylinder
	Rough blade	Blade polished incorrectly		Replace blade
	Blade not oscillating	Mechanical failure		Notify maintenance
	Worn blade	Running for long periods of time		Replace blade
<b>L I N E S</b>	Chrome nodules on cylinder	Cylinder buffed incorrectly		Re-buff cylinder
	Lines are scratched into the cylinder	Cylinder not polished enough Contamination under the blade  Fountain set too close to cylinder	RZ test	Re-buff cylinder Re-buff / replace cylinder Clean / change blade Filter ink Finlter ink with magnet Check press vacuum system Clean rollers Adjust fountain setting away from cylinder
	Nicked blade	Contamination in ink  Blade polished incorrectly Rough / high cylinder edges		Change blade Filter ink Change blade Have cylinder edges filed down
	Blade not oscillating	Mechanical failure		Notify maintenance
	Lines are in the wax coating on the paper	Defective coating on stock paper		Change the paper

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M I S S I N G  P R I N T	Cylinder design incorrect	Incorrect artwork used		Replace cylinder
	Worn cylinder	Over-use Cylinder buffed too much Blade angle too sharp or flat		De-chrome & Re-chrome cylinder Replace cylinder Flatten blade angle
	Incorrect blade setting	Blade angle too sharp Blade too low relative to nip point		Flatten blade angle Raise blade closer to nip point
	Insufficient pressure at the nip point	Too little pressure on the impression roller Impression roller is wrong durometer Uneven pressure on impression roller Defective or worn impression roller Cylinder mis-aligned in carriage	measure nip flat area durometer tester	Increase pressure to the roller Change roller to a harder durometer Balance impression roller pressure Replace impression roller Remount cylinder
	Cylinder filled in with ink	High ink viscosity  Too much air blowing on cylinder  Blade too far from nip point Ink pan too low Ink temp too high	viscosity test     thermometer	Slowly add more solvent to ink Clean / scrub out cylinder with solvent Turn off scum blowers or redirect fans Clean / scrub out cylinder with solvent Move blade closer to nip point Adjust ink pan Install ink chiller

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B L O C K I N G	Ink not drying completely on web	Low temperature in dryer Low air flow in dryer  Low steam pressure to dryer Press speed too high (small dryers only) Incorrect solvent blend	heat gun magnehelic  FPM tach G.C. test	Raise dryer temperature Increase dryer air flow Clean air nozzles Adjust air nozzle angle Notify maintenance Decrease press speed Have ink room adjust solvent blend
	Rolls wound too tightly	Too much tension on web Coating on paper uneven		Decrease press tension Change the paper
	Ink skinning over	High temperature in dryer High air flow in dryer Press speed too high Incorrect solvent blend Low temperature in dryer	G.C. test	Lower dryer temperature Decrease dryer air flow Decrease press speed Have ink room adjust solvent blend Increase dryer temp