

PRESSROOM TROUBLESHOOTING CHART

Defects	How Recognised	Probable Cause	Suggested Remedy
Adhesion, poor ink	Ink fails to adhere to material.	1. Improper ink formula	1. Make certain you have the correct ink for the kind and grade of stock being run.
	Fails tape test.	2. Ink thinned too much, destroyed.	2. Restore and hold ink viscosity at optimum point. Add fresh ink or resin binder
	Fails crinkle test	3. Insufficient heat; too low web temperature.	3. Increase heat and/or air volume.
	Fails scuff test.	4. Lack of treatment of some materials	4. Check surface of the adequate treatment.
		5. Surface of stock may be contaminated.	5. Check with supplier; check advisability and effectiveness of applying washcoat before printing.
Bleed	An undercolor wetting into an overcolor.	1. Undercolor drying too slowly or overcolor drying too fast.	1. Use faster or slower (preceding colors must be dry enough to receive subsequent colors laid down.)
	Diffused or migrating colors	2. Effect of some stocks or materials on dye stuffs .	2. Avoid use of dye colorants when unknown plasticizers are likely to be involved.
Blocking	Undesired adhesion two web surfaces	1. Improper ink drying	1. Proper solvent balance.
		2. trapped solvents.	2. effective drying system or solvent balance.
		3. Excessive pressure in rewind.	3. Reduce rewind tension.
		4. Softening of preapplied coatings.	4. Use solvents that do not attack prior coatings.
		5. Web rewind too warm.	5. Reduce web temperature by chilling within 10 0F of room temperature or reducing dryer temperature.
		6. Web rewind with excess surface moisture	6. Avoid rewinding excess surface moisture into finished roll. Avoid overchilling that condenses moisture on web prior to rewind.

Table 13-1 PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How Recognized	Probably Cause	Suggested Remedy
		6. Web rewound with excess surface moisture	6. Avoid rewinding excess surface moisture into finished roll. Avoid overchilling that condenses moisture on web prior to rewind.
Brittleness	Stock or material that When flexed.	Excess heat in drying system causing release of moisture and plasticizer from paper or film.	<ol style="list-style-type: none"> 1. Control web or film temperature. 2. Introduce moisture into afterdryer chamber or tunnel. 3. Direct web through remoisturing chamber
Chatter	Parallel lines of misprint.	Gear bottoming below pitch line.	Adjust plate thickness to achieve pitch line.
Drying too Fast.	Ink drying on plates and/or roller and failing to transfer to substrate.	<ol style="list-style-type: none"> 1. Improper use of solvents 2. Uncontrolled or unrestricted air movement in the vicinity of plates and rollers. 3. Failure to use fountain covers. 4. Improper ink for material. 5. Dried ink on plates from start-up. 	<ol style="list-style-type: none"> 1. Proper solvent selection 2. Properly balanced between-color dryers. no excessive air movement in vicinity of plates or rolls by fans or open windows, doors, etc. 3. Use fountain covers. 4. Proper selection of ink for material being printed. 5. Wash plates after color approval and before full speed run.
Drying too slow	One color bleeding into another (improper trapping) ink pick-off or transfer to press rollers and /or plates. Ink offset or blocking.	<ol style="list-style-type: none"> 1. Use of improper solvents. 2. Ink viscosity too heavy. 3. Inadequate or unbalanced drying system. 	<ol style="list-style-type: none"> 1. Use of proper solvents. 2. Controlled ink viscosities. Make viscosity cup every checks every 20 to 30 minutes. 3. Adequate and balanced drying system to accommodate press speeds

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Defects	How Recognized	Probable Cause	Suggested Remedy
	Ink penetration of paper.	4. Improper ink	4. Proper ink selection, one having more hold-out Capability.
	Tacky surface of	5. Lack of slip	5. Add wax to ink.
Feathering	Irregular string-like edges around print, often on trailing edges.	1. Improper pressure between ink transfer roll and plate. 2. Ink drying on the plate or anilox. 3. Improper setting of ink roller nip. 4. Improper ink rollers. 5. Uncontrolled ink viscosity. 6. Lint being picked up from material on plate. 7. Static electricity.	1. Set proper pressure between ink transfer roll and plate. 2. Use proper solvents and fountain covers. 3. Control pressure setting of Ink roller nip. 4. Select proper ink rollers for design and material being printed. 5. Maintain proper ink Viscosity. Check often. 6. Clean or dust material when necessary And avoid having ink too tacky. 7. Use static eliminator bars.
Fill-in	Piling or specking of excess ink on and around printing surface of plates – especially with relation to small type and screen dots.	1. Specks of ink pigment. 2. Foreign matter in ink. 3. Excessively fine type, design, or anilox screen selection 4. Souring or precipitation- ion of ink vehicle solids caused by moisture absorption by the solvent in wet film. 5. Too much pressure. 6. Rubber roller too soft. 7. Excessive plate inking.	1. Use well dispersed inks. 2. Strain ink.. 3. Check design for suitability for flexo work , i.e., sufficient open areas, proper type face, etc. 4. See section under Souring. 5. Check pressure settings. 6. Use 10 points higher durometer. 7. Select finer metering roll or improve wipe. .

PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How Recognized	Probable Cause	Suggested Remedy
		8. Ink drying too fast	8. Use slower solvent. Speed up press.
Film curl	Curl over on edges cellophane.	1. Curl toward coated side.	1. Excessive moisture. Introduce heat edges. Use heat guns.
		2. Curl away from coated side.	2. Lack of moisture. Introduce moisture to edges. Use moist sponge.
Flat process	Lack of contrast	1. Poor molds and plates.	1. Prepare molds to proper floor.
Printing	Hazy, milky	2. Excessive plate pressure.	2. Print with kiss impression. Use compressible stickyback.
		3. Viscosity too low.	3. Raise viscosity.
		4. Contamination of primary colors by any other color.	4. Replace with pure transparent process colors.
Ghosting	A faint image of a plate portion within a printed solid.	1. Two in-line plates being inked from same area of the metering roll before re-inking or the meeting roll can take place.	1. Change diameter of plate cylinder or change speed differential of fountain roll to metering roll.
		2. Improperly cleaned metering roll.	2. Thorough cleaning with proper brush.
	A hazy colorless image of the print on in-line unprinted areas of film.	1. Moisture or solvent trapped in rewind roll and migrated onto the back of the wrap of film.	1. Adequate solvent removal, drying and reduced tension.
Halo	An unwanted line surrounding a printed image.	1. Excess pressure between plate and material.	1. Reset plate pressure and ink viscosity.
		2. Poor plates or makeready.	2. Perform necessary makeready.
	Double edge printing.	3. Cupped edges of plate.	3. Make new plates and new plate mould, avoid cupping..
		4. Plate cylinder running out of Round.	4. Check plate cylinder, shafts and journals and gears for run-out.
		5. Plate durometer too hard.	5. Use recommended rubber plates For printing given materials.

PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How recognized	Probable Cause	Suggested Remedy
		6. Stickyback too thin and too firm.	6. Use compressible stickyback.
Ink heavy/ Strong	Excess ink on anilox roll or plates.	1. Insufficient solvent and/or high viscosity. 2. Improper setting of ink Roller nip. 3. Improper ink rollers for ink transfer 4. Solvent imbalance. 5. Anilox doctor blade improperly set. 6. Improper anilox.	1. Reduce ink to proper viscosity 2. Properly adjust roller nip. Increase or decrease nip pressure. 3. Consult roller manufacturer for proper specification for printing on given materials and type of printing to be processed. 4. Consult your ink formulator for optimum "make-up" solvent mixture, 5. Adjust doctor blade to shave meeting roll more clearly. 6. Select anilox roll with lower cell volume or ink carrying capacity.
Ink weak/thin	Lacking color strength	1. Too much solvent or viscosity too low. 2. Improper setting of ink roller nip. 3. Improper ink rollers for ink transfer. 4. Worn anilox roll. 5. Ink settled. 6. Excess extender varnish.	1. Add fresh ink and bring to proper viscosity. 2. Adjust roller nip to allow more ink on metering roll. 3. Consult roller manufacturer for proper specification for printing on given materials. 4. Replace with new or re-engraved roll 5. Thoroughly mix ink from container before adding to fountain. 6. Add pigment concentrate (toner).
Ink mottling	Spotted or speckled appearance of solid print. Dark or colored intermittent streaks – usually in a light color.	1. Ink too weak or too thin, and loss of tack. 2. Surface of plates uneven. 3. Anilox roll cell walls too wide.	1. Add fresh ink and bring to proper viscosity. Add varnish to increase tack. 2. Remake plates if mottled appearance is evident on surface. Also examine plate mold for same mottle pattern. 3. Check wear condition of anilox lands. Replace anilox roll.

PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How Recognized	Probable Cause	Suggested Remedy
		4. Foreign matter on surface of plates.	4. Wash plates thoroughly.
		5. Dirty or pitted impression cylinders.	5. Clean impression cylinders thoroughly of all foreign matter, inks, waxes, etc.
		6. Unevenly absorptive materials.	6. Softer plates sometimes may help; more opaque ink may help.
		7. Uneven surface materials.	7. Softer plates should be tried.
		8. Ink starvation from anilox.	8. Adjust with richer or slower drying solvent.
		9. Contaminated Ink.	9. Clean and strain ink or replace with fresh ink.
		10. Ink lacks proper flow.	10. Consult ink supplier for reformulation.
Misregister	One part of design not correctly positioned with another.	1. Incorrect plate-up; plates not mounted in register. 2. Incorrect web tensions. 3. Incorrect draw roll adjustment 4. Excessive web temperatures. 5. Failure to center press register compensators before putting job in press. 6. Idle rolls dragging or running intermittently. 7. Press out of line. 8. Gauge variations in stock.	1. Study plate-up, mounting and makeready procedures. 2. Study procedures involving auxiliary equipment, P.I.V. speed variators, unwind and rewind tension controls. 3. Check draw roll parallel constant side to side pressure, centre wear condition. 4. Reduce dryer temperatures. 5. Center forward, backward and side register compensators before manually keying in job register. 6. Free all idle rolls so that they turn Freely mechanically. Drive at web speed if necessary. 7. Check and record press alignment.
Moire	Undesirable dot pattern in process Printing.	1. Anilox screen count too similar to plate screen count. for instance, a 165 line anilox plate can cause moire – because of harmonic $85 \times 2 = 170$, too close to 165 line Improper screen angles.	1. Change anilox. Select a screen count appropriate for tone work Refer to chapter 14 on process printing. 2. Refer to chapter on process for Proper screen angles.

PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How Recognized	Probable Cause	Suggested Remedy
Odor	Undesirable odor in Printed substrate	1. Retained solvents.	1. Balance solvents and check for proper solvent. 2. Check dryer efficiency and Temperature 3. Increase between-color drying. 4. Reduce line speed.
Offset Or set-off	Transfer of ink to opposite side of material than that on which it was printed.	1. Ink not dry at rewind. 2. Trapped Solvents. 3. Excess pressure in roll. 4. Film treated on both sides for printing so that ink contacts opposite treated surface, such as 5. Films with plasticizers subject to migration, such as some vinyl film.	1. Use faster solvents. Check between color and final dryers for obstructions and adequate air and temperature. Reduce ink viscosity to minimum acceptable; increase wipe between the fountain and anilox rolls. 2. Same as above. Reduce ink film to minimum acceptable. 3. Reduce rewind tension. 4. Avoid excess pressure in rewind rolls. Apply offset powder to web before rewinding; overprint with nonblocking varnish if necessary. 5. Same as remedy number 4.
Pick-off/ Ink	First down ink transferring to Subsequent plates.	1. First color too slow. 2. Second color too fast. 3. Second-down color too high in viscosity.	1. Add fast solvent to first color; increase between-color dryer temperature, 2. Add slow solvent to overprinting color. Check dryer. 3. Increase press operating speed and/or reduce viscosity of second-down color.
Pinholing	Small holes in	1. Physical surface of some materials. 2. Failure of ink to form continuous ink-film laydown.	1. Consult your material supplier. 2. Increase ink film thickness. check impression, anilox roll to plate and plate to stock; add impression if setting is too light. Add pinhole compound to ink. If 2% or 3% fails to correct condition, call your inkmaker.

Defects	How Recognized	Probable Cause	Suggested Remedy
		3. Dirt on impression cylinder.	3. Clean impression cylinders
		4. Ink drying too fast.	4. Use slower solvent or speed up press.
		5. Worn anilox	5. Examine wear condition of anilox lands. replace with new or reengraved roll.
Plate swelling	Dimensionally larger softer than when mounted on cylinder.	1. Ink or solvents not compatible with printing plates.	1. Check ink and solvents being used with your inkmaker and plate supplier.
Poor ink Transfer	Insufficient ink being applied to stock	1. Ink reduced too much.	1. Rebuild tack and color strength by addition of fresh ink or extender or both.
		2. Ink drying on plates.	2. See defect "Drying too fast". Retard drying with slower drying solvent or thinner, consult inkmaker.
		3. Surface of stock not receptive to ink.	3. Verify ink formulation with ink supplier for given material; check for "souring"; add "anti-pinhole compound"; check stock for treatment.
		4. Improper pressure among ink roller, transfer roller and plate.	4. Adjust pressure.
Screening	A definite pattern of small holes appearing in surface of solid	1. Ink drying too fast on anilox roll and failing to transfer properly to printing plate.	1. Use fountain covers. retard drying speed of ink. Adjust exhaust on between-color dryers.
		2. Worn anilox roll.	2. Examine wear condition of anilox lands. Replace with new or reengraved anilox.
Skip print	Areas of plate failing to print.	1. Poor plates or makeready.	1. Check impressions to determine accuracy of plates. Secure new plates or do necessary makeready.
		2. Impressions set to light.	2. Readjust impression settings.

Table 13-1. PRESSROOM TROUBLESHOOTING CHART (continued)

Defects	How Recognized	Probable Cause	Suggested Remedy
		3. Failure to lock down deck	3. Be sure printing sections are locked firmly in place when impression is properly set.
		4. Plate cylinder "bounce",	4. Check concentricity of plate cylinder and gears; plate cylinder shaft for flexing; journals and bearings for excessive wear. consider nature of printing plate design., Check for dried ink in gear teeth.
Souring ink	Thixatropic loss Of flow curdling.	Excessive moisture in ink due to Humidity.	Keep fountains and Reservoirs covered. Add Normal propyl acetate.
Separation Or "kick out"	Curdling and thixatropic (much Like souring)	Presence of wrong solvent or excessive diluent.	Add rich true solvent To return ink to proper balance.
Streaks or Smears	Blobs of lighter or darker Color in unwanted Areas on web.	1. Gel particles are undissolved. 2. Uneven plates. 3. Foam bubbles being printed. 4. Ink splash dripping onto web.	1. Filter particles out in circulation system and clean plates and anilox. 2. Check plates. 3. Add antifoam to ink. 4. Check fountain guards, ink sling rings and pans for over flow , leaks.
Streaks in web direction.	Continuous dark lines through print.	1. Damaged fountain or anilox roll. 2. Nick in doctor blade.	1. Sharp spot on anilox can cut fountain roll. Polish anilox and grind streak out of fountain roll. 2. Hone or replace doctor blade.
Web Weave	Web failing to track or follow a true course through the press.	1. Press out of alignment . 2. A roller out of alignment. 3. Build up of ink, tape or foreign matter on press 4. Too much heat one web, such As polyethytlene.	1. Check press alignment. 2. Check individual rolls for alignment. 3. Clean all rolls of foreign matter. 4. Reduce web temperature.

Table 13-1 PRESSROOM TROUBLESHOOTING CHART (Continued)

Defects	How Recognized	Probable Causes	Suggested Remedy
		5. Web guides not operating or set properly.	5. Check and clean web Guides regularly per manufacturer's instructions. Set web guides and position cores so that web will unwind and rewind at an equal measurement from the end of the respective shafts.
		6. "Gauge" problems with	6. Replace roll of stock with new roll.
Wrinkling	Wrinkles in substrate.	1. Baggy substrate.	1. Tape rollers at web edge to draw out wrinkles.
		2. Equipment misalignment.	2. Adjust all roller alignment.