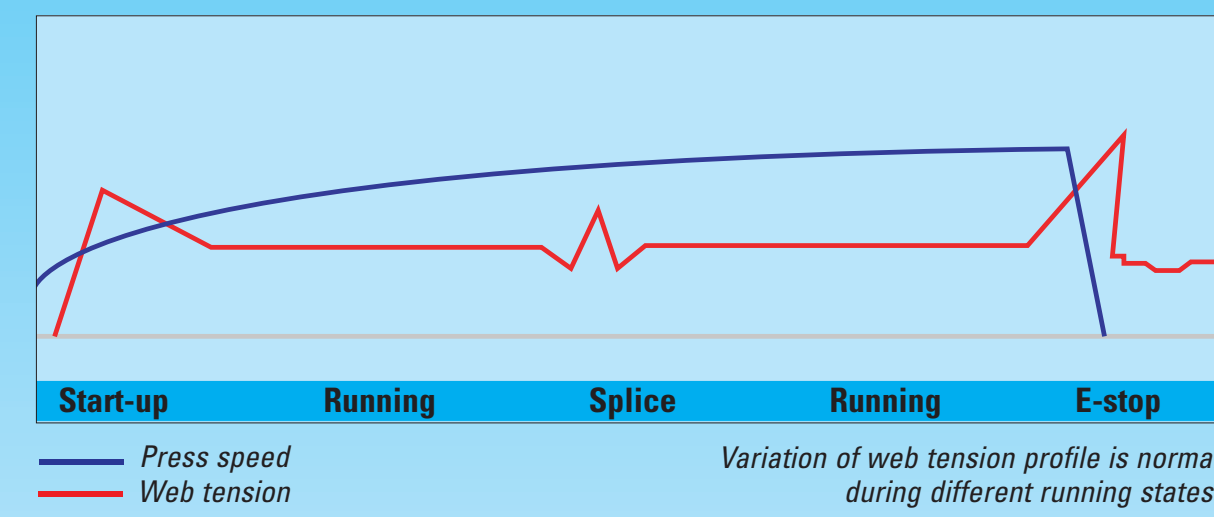
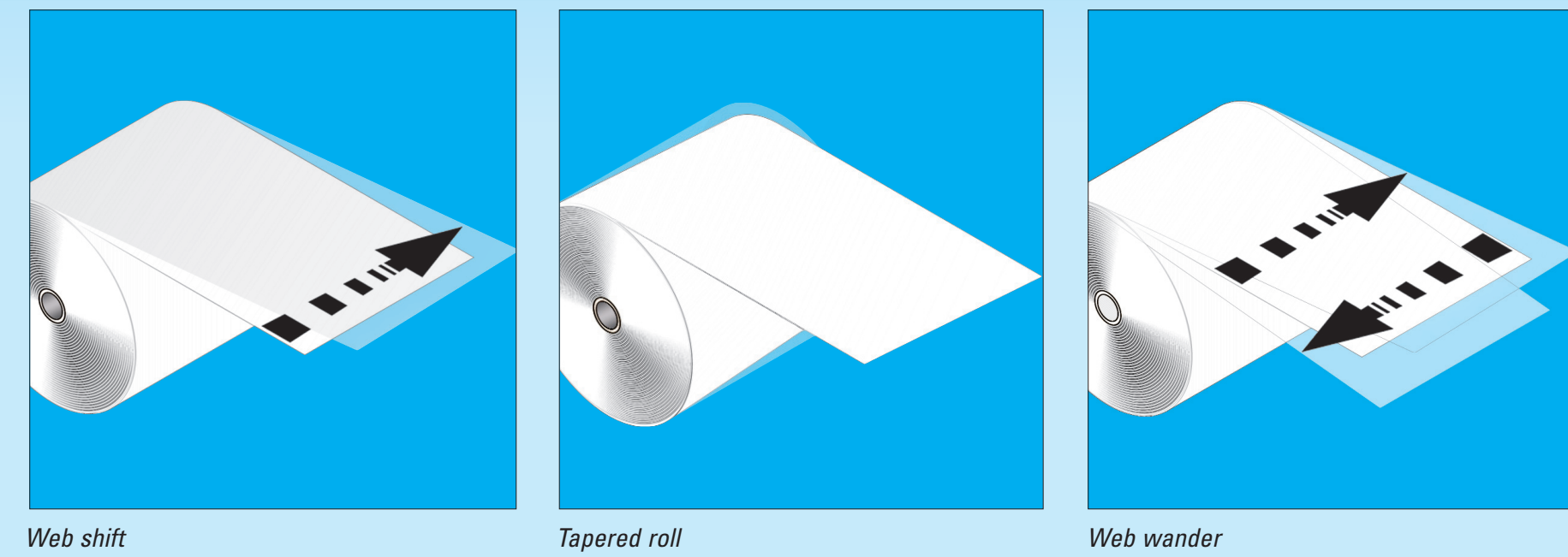


# Web break diagnosis

## WEB TENSION



## WEB WANDER AND WEB SHIFT

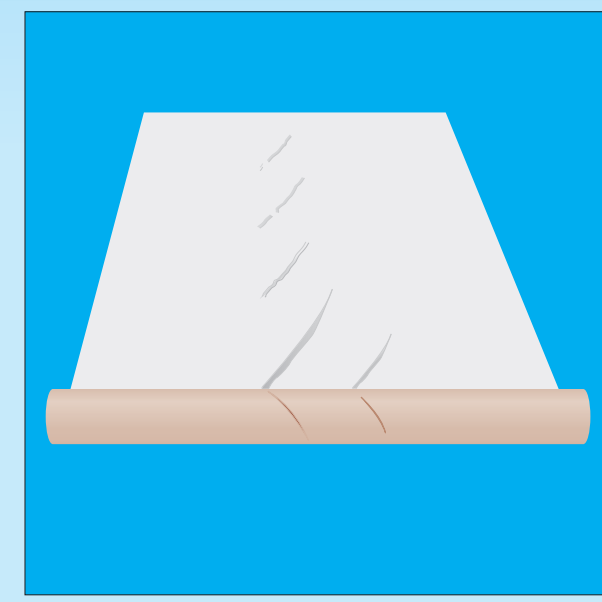


Web shift, Tapered roll, Web wander

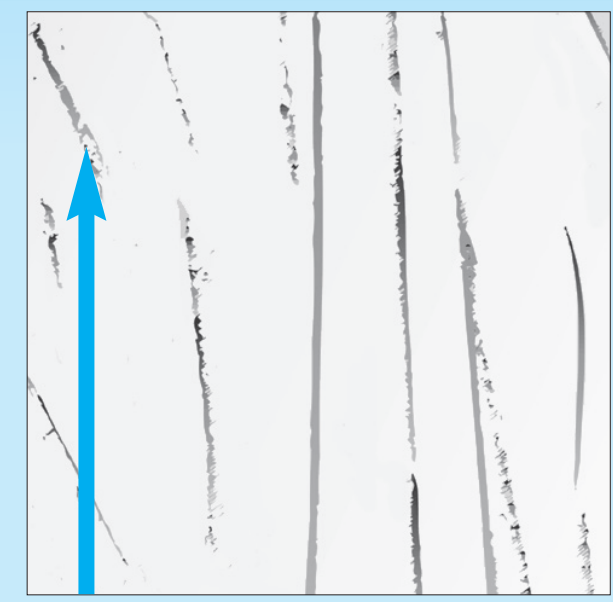
ORIGINS OF CREASES AND WRINKLES	Crease	Wrinkle
Loose or tight paper edges or winder wrinkles	•	•
Baggy rolls, non uniform tension or caliper profile, winder misalignment	•	•
Incorrect web tension anywhere in the line	•	•
Paster generated creases (have no image on the underside of overlap)	•	•
Incorrect impression setting or cylinder rolling	•	•
Uneven blanket packing between units	•	•
Chill rolls creases (generally occur during start-up in the web direction)	•	•
Nip roller adjustment fault (parallel or uneven pressure)	•	•
Debris build up on edges of web lead and compensator rollers	•	•
Press or web lead rollers misaligned or out of level	•	•
(Persistent diagonal wrinkles in any web span indicate misalignment)	•	•
Folder incorrect former angle, turner bar air pressure setting	•	•
Excessive inching the press with all nips on	•	•

A SPICE PREPARATION	Burst	Fail	Mis	Break	Flying	Zero
1 Failed roll fault inspection prior to loading	•	•	•	•	•	•
2 Rolls unwrapped too early	•	•	•	•	•	•
3 Excessive vibrations	•	•	•	•	•	•
4 Wrong roll unwind direction (flying paster)	•	•	•	•	•	•
5 Incorrect splice pattern type	•	•	•	•	•	•
6 Splice pattern bursts open before splice	•	•	•	•	•	•
Air pockets	•	•	•	•	•	•
Dynamic roll expansion (see also 2)	•	•	•	•	•	•
Rupture tabs applied too tightly	•	•	•	•	•	•
Open tape in acceleration belt path	•	•	•	•	•	•
Too fast acceleration tears paper	•	•	•	•	•	•
Splice shields not fully closed or no vacuum	•	•	•	•	•	•
7 Failed splice	•	•	•	•	•	•
Inadequate splice tape pressure (see also 21)	•	•	•	•	•	•
Uneven tape profile from overlaps	•	•	•	•	•	•
Tape protective strip not removed/No tape applied	•	•	•	•	•	•
Dust, moisture, solvent on open splice tape	•	•	•	•	•	•
Glue unsuitable (tack, temperature, humidity)	•	•	•	•	•	•
Cold roll (temperature near core below 10°C)	•	•	•	•	•	•
Rupture tabs incorrect or turned over covering detection tab	•	•	•	•	•	•
No splice detection tab, sensor dirty	•	•	•	•	•	•
8 Tape or glue overlaps edge of roll	•	•	•	•	•	•
9 Tabs come loose & stick to expiring web or blanket	•	•	•	•	•	•
10 Splice detection tab in wrong position	•	•	•	•	•	•
11 Tab in path of folder slit	•	•	•	•	•	•
12 Too long paster tail causes folder jam (see also 10, 22, 23)	•	•	•	•	•	•
13 New roll not aligned to expiring roll or variable roll widths	•	•	•	•	•	•
14 Cocking roller setting incorrect	•	•	•	•	•	•
15 Zero speed splicer incorrect alignment to nipping roller	•	•	•	•	•	•

## CREASES

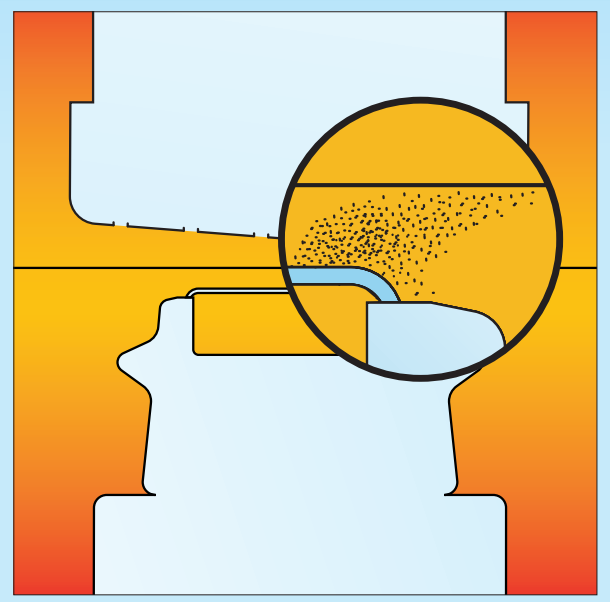


Creases are generally at an angle to machine direction.

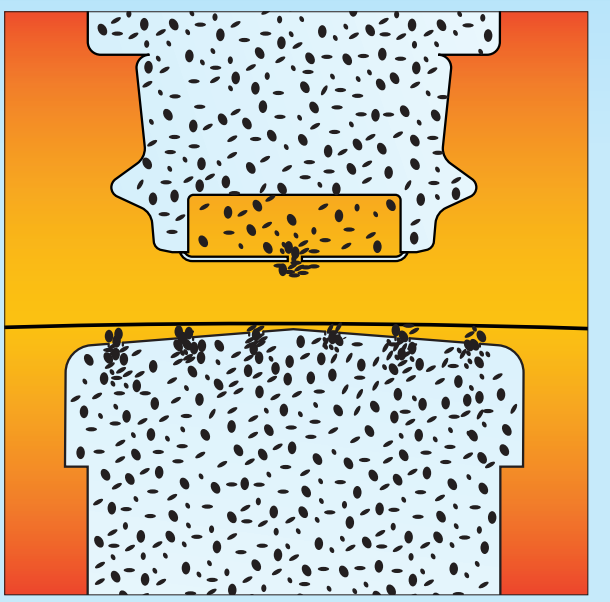


Exception is chill roll crease in machine direction.

## HEATSET DRYER

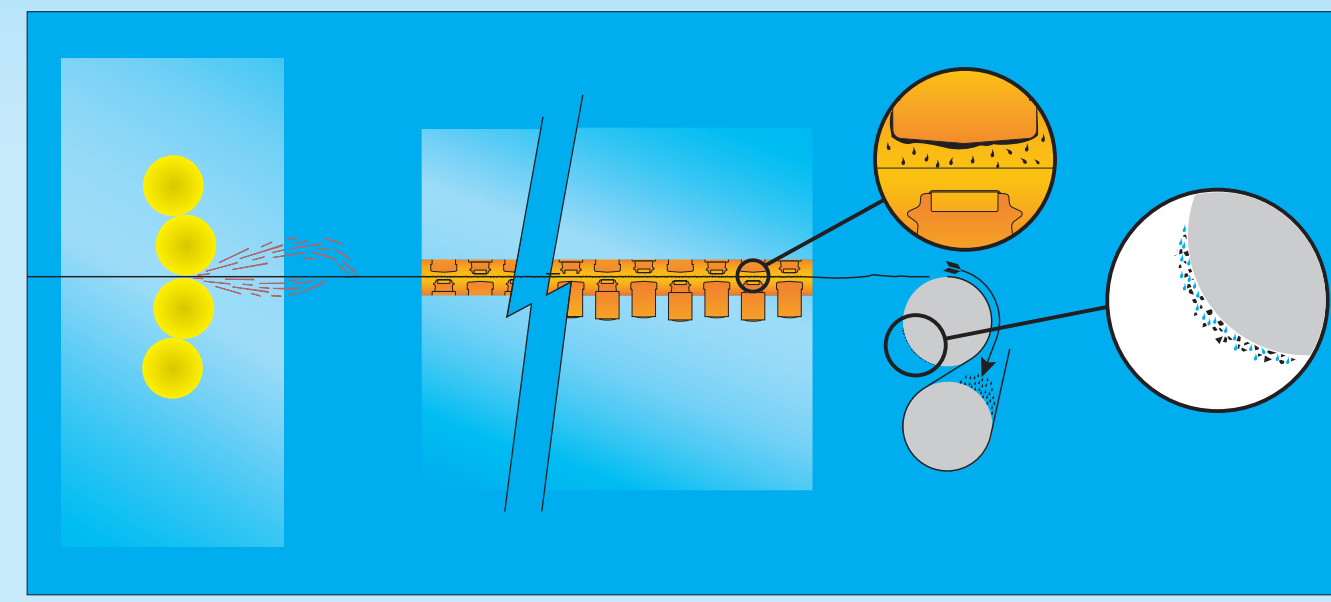


Paper-ink build up touches and tears web leading to web break.



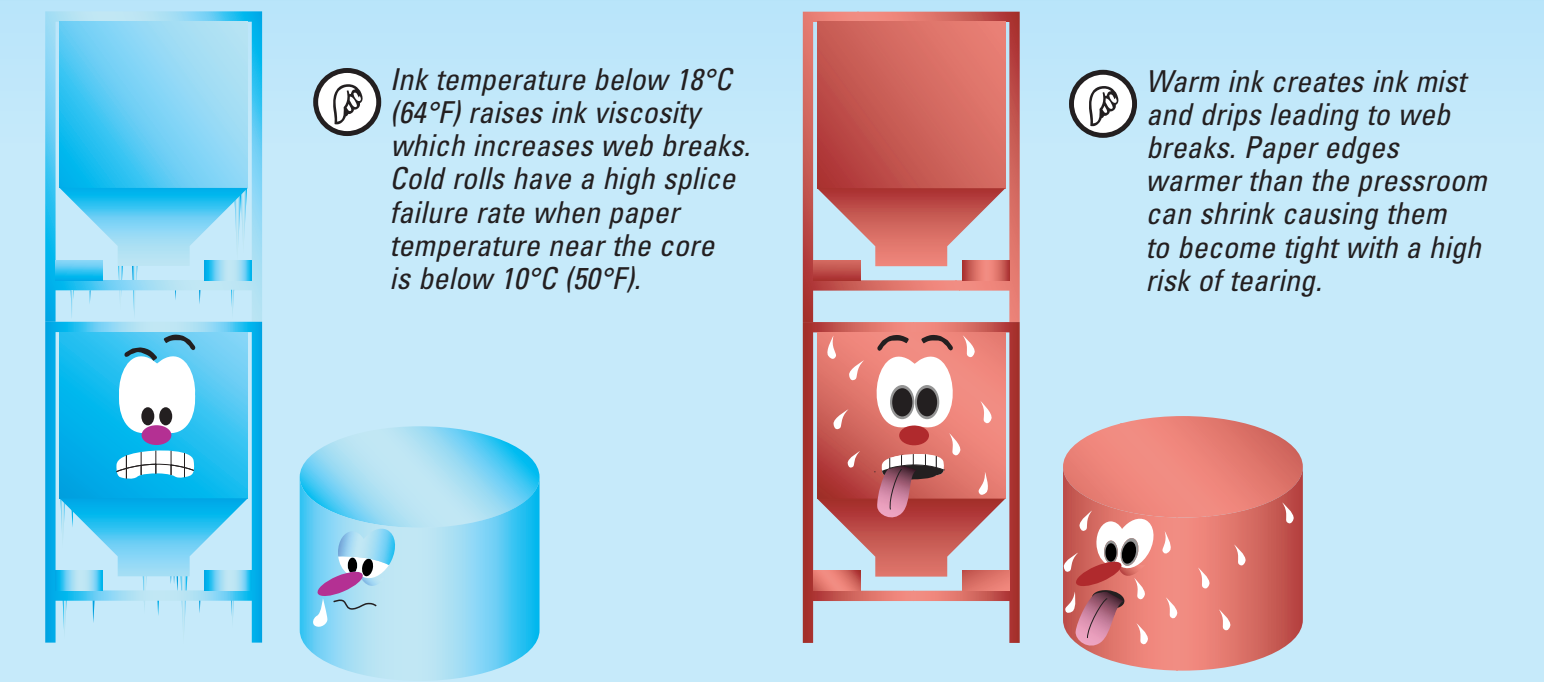
Blocked air nozzle web and ink build-up causes web touching.

## DEPOSITS ON CHILL ROLL SURFACE



These will eventually create sufficient tack to tear and break the web.

## TEMPERATURE



Ink temperature below 18°C (64°F) raises ink viscosity which increases web breaks. Cold rolls have a high splice failure rate when paper temperature near the core is below 10°C (50°F).

Warm ink creates ink mist and drips leading to web breaks. Paper edges warmer than the pressroom can shrink causing them to become tight with a high risk of tearing.

B SETTING AND MAINTENANCE	Burst	Fail	Mis	Break	Flying	Zero
15 Debris build up on roller edges	•	•	•	•	•	•
17 Sensor defective or dirty	•	•	•	•	•	•
18 Roll not up to speed	•	•	•	•	•	•
19 Roll will not go to splice position (paster status problem)	•	•	•	•	•	•
20 Tension/drive belts: Incorrect tension, burred, worn	•	•	•	•	•	•
21 Pasting brush/roller dirty, worn, incorrect pressure (see also 7)	•	•	•	•	•	•
22 Knife cut too early (see also 10)	•	•	•	•	•	•
23 Knife cut too late (see also 10)	•	•	•	•	•	•
24 Knife failed (see also 10, 17)	•	•	•	•	•	•
25 Improper adjustment or malfunction of paster carriage	•	•	•	•	•	•
26 Roll runs off core	•	•	•	•	•	•
27 Incorrect brake load/tension setting	•	•	•	•	•	•
28 No low tension make ready setting (start-up break)	•	•	•	•	•	•
29 Press stops in splice cycle (no web break but no splice)	•	•	•	•	•	•
30 Press speed change during paste cycle	•	•	•	•	•	•
31 Oscillation of compensating roller (pumping)	•	•	•	•	•	•
32 Erratic tension near end of roll	•	•	•	•	•	•
33 Excessive tension during splice	•	•	•	•	•	•
34 Brakes fail to transfer correctly	•	•	•	•	•	•
35 Air supply failure cause loss of tension	•	•	•	•	•	•
36 Drops of oil, water, ink falling on to web	•	•	•	•	•	•
37 Overpacked blanket explodes splice in printing unit	•	•	•	•	•	•
38 Zero speed splicer head rollers out of alignment	•	•	•	•	•	•
39 Faulty zero speed dancer operation	•	•	•	•	•	•
Web break during Deceleration	•	•	•	•	•	•
Dancer cylinder ports closed	•	•	•	•	•	•
Chain sprockets worn	•	•	•	•	•	•
Dancer brake malfunction	•	•	•	•	•	•
Web break during Splice: Insufficient air pressure	•	•	•	•	•	•
Web break during Acceleration	•	•	•	•	•	•
Dancer rollers out of alignment	•	•	•	•	•	•
Dancer bottoms out	•	•	•	•	•	•
Dancer does not fill prior to splice	•	•	•	•	•	•
If dancer fills out before or after splice	•	•	•	•	•	•

C INFEED	Break	Wander	Shift
1 Incorrect tension	•	•	•
2 Excessive movement of compensator (pumping)	•	•	•
3 Debris build up on roller edges	•	•	•
4 Badly set nip roller (pressure and parallelism)	•	•	•

D WEB GUIDE	Break	Wander	Shift
1 Tension incorrect	•	•	•
2 Reaction too fast, excessive movement of carriage	•	•	•
3 Debris build up on roller edges	•	•	•
4 Mechanical defect in web guides, carriage jam creases	•	•	•

E INK AND DAMPENING	Piling	Emulsification	Drops/Spray
1 Ink to paper selection	•	•	•
2 Excessive inking	•	•	•
3 Excessive water feed	•	•	•
4 Ink tack too high	•	•	•
5 Ink viscosity too high	•	•	•
6 Ink mist, fly, drips falling on web	•	•	•
7 Press line settings, temperatures, maintenance	•	•	•

F PRINTING UNITS	Tension	Wander	Crease	Wrap
1 Start-up breaks:				
Tension peak at impression on	•	•	•	•
Excessively tacky ink may cause web tearing	•	•	•	•
Water or cleaning solvent in cylinder lock up gaps	•	•	•	•
Plate gum left on plate causes web to wrap on start-up	•	•	•	•
2 Emergency stop: Wet to dry web tension change	•	•	•	•
3 Sympathy break: One broken web creates others	•	•	•	•
4 Water, ink or foreign object falling on web	•	•	•	•
5 Impression setting: High, low or uneven	•	•	•	•
6 Incorrect cylinder rolling/blanket bearer to bearer press	•	•	•	•
7 Blankets:				
Uneven packing between units	•	•	•	•
Overpacked (bearer to bearer press)	•	•	•	•
Incorrectly fixed	•	•	•	•
Ink tack and blanket release incompatible	•	•	•	•
Damaged blanket	•	•	•	•
Ink and paper debris build-up on blanket	•	•	•	•
8 Web lead rollers and compensators				
Ink and debris builds up on edges	•	•	•	•
Out of alignment or worn bearings with excessive play	•	•	•	•
9 Press misaligned or out of level	•	•	•	•

G AIR TURNS (COLDSET AND HEATSET)	Wander	Touch	Marking	Break
1 Incorrect air pressure settings	•	•	•	•
2 Start up 'impression on' before air turns are switched on	•	•	•	•
3 Dirty or damaged air slots	•	•	•	•

H HEATSET DRYER	Wander	Touch	Marking	Break
1 Excessive tension variations (not a dryer cause)	•	•	•	•
2 Excessive web shift in dryer	•	•	•	•
3 Touching and tearing of web	•	•	•	•
4 Drying temperature too high makes paper brittle	•	•	•	•
Tar condensate drops on to the web	•	•	•	•
5 Splice separates in dryer	•	•	•	•

I CHILL ROLLS	Wander	Marking	Break
1 Deposit on chill roll surface	•	•	•
11 Tar & resin drops from dryer	•	•	•
12 Ink fly from print units	•	•	•
13 Solvent boundary layer condensation	•	•	•
2 Incorrect temperature setting	•	•	•
3 Gain (tension) incorrect	•	•	•
4 Incorrect nip roller setting	•	•	•

J FOLDER	Jam	Crease	Wander	Tear
1 Paster tabs in path of slitters	•	•	•	•
2 Folder jam from too long paster tail	•	•	•	•
3 Superstructure draw rollers pull incorrectly	•	•	•	•
4 Badly set nip rollers	•	•	•	•
5 Slitter assembly incorrectly set, dull blade	•	•	•	•
6 Former angle incorrect	•	•	•	•
7 Turner bar angle incorrect	•	•	•	•
8 Air pressure incorrect	•	•	•	•
9 Debris build-up on former and turner bars	•	•	•	•
10 Web tension incorrect	•	•	•	•
11 Cutting or folding incorrect	•	•	•	•
12 Delivery fan dirty damaged or poor adjustment	•	•	•	•
13 Guide settings incorrect	•	•	•	•
14 Dirt on sensor of folder jam detector	•	•	•	•
15 Transport belt incorrectly set or damaged	•	•	•	•
16 Collecting/tucker blade cylinder adjustment	•	•	•	•
17 Stacker or mailroom conveyor speed does not match press	•	•	•	•

ENVIRONMENT RISKS	Low	Optimum 20-25°C (68-77°F)	High	Low	Optimum 50-55% RH	High
• = OUT OF OPTIMUM INCREASES RISK OF	⊗	⊙	⊗	⊗	⊙	⊗
Piping paper rolls						•
Shrinkage on open rolls			•	•		
Burst splice			•	•		•
Splice failure			•	•		•
High ink tack (web break)	•		•	•		•
Low ink tack (ink fly/web break)			•	•		•
Static electricity	•		•	•		•
Brittleness			•	•		•
General web break risk			•	•		•

