Printing Simulator – Newspaper Multi-Web

Multi-Web   Offset

The Multi-Web simulator models a 4-color 48-page press from the pasters through the superstructure and folders to the conveyors. Ink and water interactions are simulated along with console and on-press adjustments. The interactive trainer works like an airplane simulator and is so effective that its users feel that they are "virtually printing" – the only difference is that there are no paper, ink or press costs. Production problems of varying complexity can be created to suit all staff levels. The real results are accelerated training, improved operator skills and higher productivity.

Software runs on standard multi-media PCs preferably equipped with two monitors. One monitor displays the press, its control console and its mechanical parts; the second shows the printed copy and proof.

Press control monitor

Control the entire press line from loading paper rolls to folded sections on the conveyor.
It allows all functional settings to be made and adjusted. Intuitive icons on the press console display the printed page or the folded newspaper. The operator can check the press and the status of its variable settings. An interactive diagnostic self-help identifies possible problems along with explanations and solutions.

Finished product monitor

Let the operator compare differences between the "printed and folded form" and the "proof" copy. A 3D representation allows a complete check of folds, web position and cutting registration. A magnifier allows close-up sheet inspection and verification of registration. The print copy has a grey bar which can be checked with both the magnifier and densitometer to access grey balance, dot gain and density.

Virtual printing…Real results : what users say

"The simulator gives our pressmen the ability to do everything from making assessments on a proof to checking ink density. By the time the new press was installed, they were already used to it."
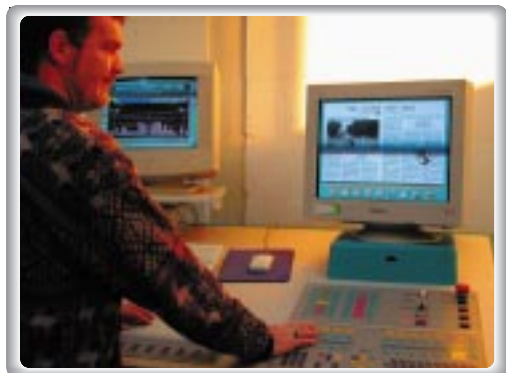**MILWAUKEEE SENTINEL JOURNAL**

"Trainees can learn or sharpen their skills on all of the major issues, from press registration to ink and water balance. Using simulation is fast and very comprehensive. It gives our printer a lot of confidence."
RR DONNELLEY & SONS

Simulator Advantages

- Reduce waste, make ready time(~4%)
- Increase average running speed
- Develop efficient problem solving skills
- Build confidence, helps team building and understanding
- Reduce training time by 50%, and maintain printing skills
- Structure skill enhancement and evaluation
- Improve best practice & knowledge transfer
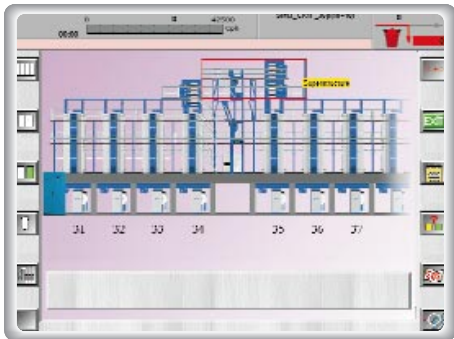- No paper, ink or press costs when training

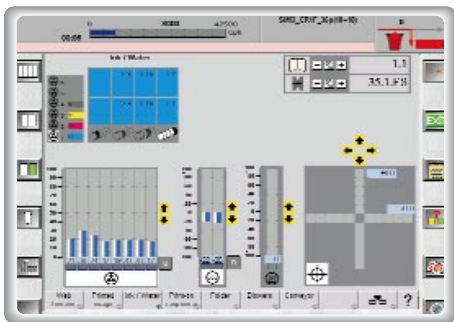*The most realistic "hand on" operating experience comes from instegrating the simulator software into a press console.*

SINAPSE GRAPHIC

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Simulation & Software for the Graphic Arts

Press

Press Console

Web Tension :
Former Feed Roller
Former Prefeed Roller
Per Web
   Infeed Unit
   Dancer Roller
Draw Roller
Ribbon cut-off and position
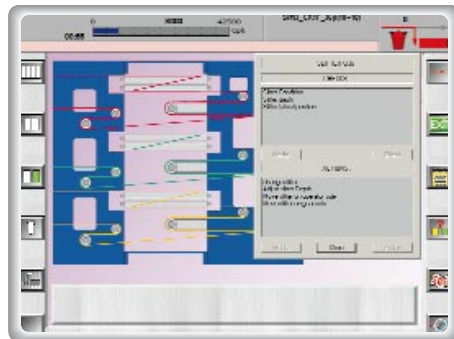Per web
   Cut-off margin all
   Turner Bar
   Reel Sidelay

Ink/Water :
Per tower and per color
   Spray
   Ink Segment
   Registration
Folder :
Lead In Rollers Former A
Lead In Rollers Former B
Drum Folder
   Guide Driven Lead
   Pins adjustment
   Pinch Roller Lead

Press Adjustments

Dampening Station
Water
Reelstand
Current reel
   Paper
      Reel core
Dancer Roller
Infeed-roller
   Infeed squeeze roll
Printing unit
Inking system
   Ink film roller
   Inking system rollers
   Ink fountain
      Ink metering screws
      Ink
Plate cylinder
Plate
Blanket cylinder
Blanket
Dampening system
Dampening Spray bar
   Pipes
   Dampening rollers
Superstructure
Draw roller full web
   driven rollers

Draw roller full web
   nip rolls
Slitters
Angle Bar
Folder
Upper Folder
Former Prefeed Roller
Former Feed Roller
Former Feed Roller Trolley
Former
Lead in rollers
Guide Roller
Cutting cylinder
Knife
Folding and collecting cylinder
Cutting anvil
Folding Knife
   Pins
Pinch Rollers
Spider Wheel
Conveyor

Potential Faults

All ribbon cut off
   register error
Bad delivery
Bad distance between
   newspapers
Bad overlap
Bad ribbon width
Circumferential slurring
Creasing after
   impression
Creasing before
   impression
Cross Fold crooked
Cross Fold shifted
Delivery Jam
Dirt marks
Dog-ear
Dry - Scumming
Enlargement
   (dot spread)
Fogging
Folder jam
Greasing
Hickeys
Increased Thickness
   of ink film
Inking
Lateral slurring

Left-right register
Low
Miss-insertion
Off-centred impression
Offset ribbon lateral
   error
Plate-roller marks
Registration
Ribbon cut off
   register error
Section lateral moving
Spotting
Tear at foot (head)
   of signature
Tear at former nose
Tear at pinch roller
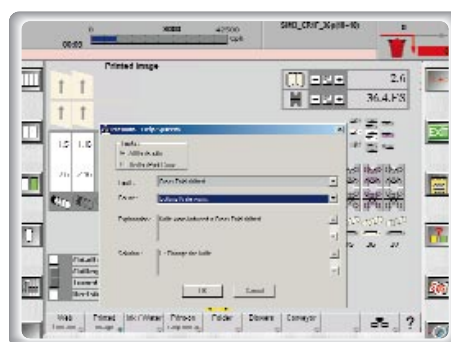Tear at slit edge
Web break
Web cut off
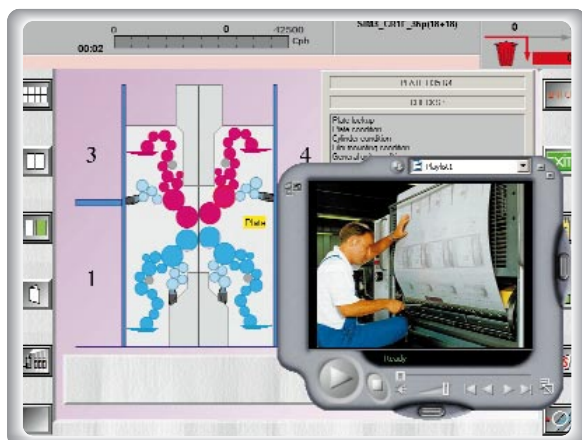   register error

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Print Display and Analyses

Display
3D folded product
Page per page
Front 8 pages
Back 8 pages
Single page against proof
User help system
Tools
Magnifier
Densitometer
Display of folds in 3D
Production info
Good & bad copies
Cost & time

Diagnostic Help System

Interactive diagnostics
Possible causes
   for current problems
Explanations
Solutions

Personalization Possibilities

Multi-media links (photos, videos, text)
Individual production costs
Creation of training courses
Custom "print copy form"
Integration into operator console