How To Print T-Shirts For Fun & Profit

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Introduction

• The purpose of this presentation is to introduce you to screen printing.
• Topics to be covered
  – Equipment
    – Manual
    – Automatic
  – Artwork
    – Vector
    – Raster
  – Output Devices
    – Inkjet
    – Direct to Screen
  – Screens
    – Rigid
    – Retensionable
  – Documentation
Equipment

• Following are images of some of the equipment necessary to operate a production facility.
• Automated shops will usually have some manual equipment which is used for sampling and for testing.
• It is important for all shops to do some R&D to keep up with current trends.
Manual Press
Automatic Press
Electric Dryer
Gas Dryer
Florescent Exposure Units
Metal Halide Exposure Unit
LED Exposure Unit
Flash Unit
Rigid Metal Frames
Tension Meter
Retensionable Frames
Washout Sink
1000-3000 PSI Washer
Artwork

Vector
Illustrator
Corel Draw
Artwork

Raster
Photoshop
Halftones
Resolution
LPI
Angle
Dot Shape
Art Considerations

- Dark Colored Garments
  - Image Size - Large
  - Contrast - Severe
  - Color - Bright
  - Easy to identify subject
- Light Colored Garments
  - Image Size - Varies
  - Contrast - Subtle
  - Colors – Soft to Bright
  - Easy to identify subject
1-White Base-156 Mesh
Flash

• The underlay is flashed so the colors on top stay crisp and vibrant.
• All colors us 45LPI, elliptical dots. The mesh count changes between the Base White and all the other colors.
2-Scarlet-230 Mesh
3-Yellow-230 Mesh
4-Hilite White-230 Mesh
Artwork Specifications

- **Resolution**
  - 2-2.5 times the LPI to be used
    - 45 LPI = 100-150 DPI
    - 55 LPI = 125-175 DPI
    - 65 LPI = 150-200 DPI

- **Dot Angle**
  - 61 Degrees for all colors-raster & vector

- **Dot Shape**
  - Eliptical
The document is a log for the Art Department, labeled "ART DEPARTMENT LOG." It contains a table with columns for FO #, Customer Account Name, Art #, Description, Try For Date, Deadline, Sales D #, Date Sent To Proof, Date Approved, and Actual Art Time. Each row of the table represents a specific entry with fields for the above information. The table structure is consistent across the rows, indicating a systematic recording of tasks or projects within the Art Department.
Output Devices

- Ink Jet
- RIP
- Laser
- Image Setter
- Direct to Screen
Screen Frames

• Rigid
  • Wood
  • Metal
• Retensionable
  • Tension Meter
Drying Cabinets
Day in the Life of a Screen

- Stretch the Screen - put it into the sink
- Wet
- Degrease
- Dry
- Coat
- Dry
- Dry
- Expose
- Washout
- Dry
Day in the Life of a Screen

• Tape & Blockout
• Print
• Remove ink
• Ink Degradent
• Wash
• Reclaim
• Re-tension
• Degrease
Order Form

- The purpose of an order form is to dispense information so once an order is placed in the system, it can go through without questioning what needs to be done.
- It should include all contact information.
- Product information including quantities
- Delivery information
- Shipping information
- Design requirements
- Billing information
- Any information that will allow the job to be processed without problems.
Order Form

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Short Sleeve</th>
<th>Color</th>
<th>Size (S M L XL XXL XXX L XL XXL XXX)</th>
<th>Price</th>
<th>Est.</th>
</tr>
</thead>
</table>

**SHIRT COLORS:**
- **TS**
- **SWEATS**
- **JACKETS**
- **CAPS**
- **OTHER**
- **FULL SIZE**
- **CREST SIZE**
- **SLEEVE**
- **TRANSFERS**

**CUSTOMER PROOF NEEDED**
- Of Art Work or Sew Out

**REPEAT**
- **QUANTITY**
- **ART ONLY**

**All Orders**
- (Require 50% down)
- Balance Due
- (upon receipt of goods)

**DATE**
- **ART APPROVED**
- **SIGNATURE**

**EXPO EAST**
Print Strike-Off Specs

- In order to be able to duplicate a job, it is important to know how the job was done. This form may be altered several times. As it is, the old version should be thrown away so mistakes are not made.
  - Art
  - Screen making
  - Ink
  - Sampling
  - Production
# Print Strike-Off Specs

<table>
<thead>
<tr>
<th>Date</th>
<th>Customer</th>
<th>Work Order No.</th>
<th>Art Design</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Colors</th>
<th>B</th>
<th>S</th>
<th>Form</th>
<th>Print</th>
<th>Ink</th>
<th>Streak</th>
<th>Flash</th>
<th>Screen</th>
<th>Flood Bar</th>
<th>Squeegee</th>
<th>Humidity</th>
<th>Press</th>
<th>Garment Type</th>
<th>Calibration Bar</th>
<th>Dryer Temperature/Speed</th>
<th>Location</th>
<th>Other</th>
<th>Comments</th>
</tr>
</thead>
</table>

**APPLICATION**

- F: Ink
- B: Angle Angle
- T: Ink
- D: Angle Angle
- K: Ink
- N: Angle Angle
- L: Ink
- H: Angle Angle

**Other Comments**

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Print Production Log

• In order to be able to schedule, you have to know how long it takes to produce specific types of jobs.

• This form is divided into three parts.
  – Left side is filled out by the production manager including an estimated time to run the job.
  – Center is filled out in production. Time should be rounded off to the nearest 5 minute interval.
  – Right side is filled out once the job is completed.
  – The completed time of one job is the beginning time of the next job.
Print Production Log

<table>
<thead>
<tr>
<th>PRESS #</th>
<th>SHIFT</th>
<th>PRINT PRODUCTION LOG</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>PRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>WORK ORDER #</td>
<td>ACCOUNT NAME</td>
<td>GARMENTS</td>
<td># OF COLORS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SET-UP</th>
<th>START</th>
<th>FINISH</th>
<th>BREAKDOWN</th>
<th>FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL SIZE</th>
<th>WCR</th>
<th>TOTAL</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOMORROW
Stopped Production Form

• Press # _____ Customer ____________________ Job # ____________________

• Date_____Time: From____To_____

• Reason
• Ink Build Up (Wipe Screens)________
• Lint________________________________
• Pinholes___________________________
• Change Squeegee___________________
• Re-register Screen(s)_______________
• Adjust Press_______________________
• Change Ink Color___________________
• Add Ink___________________________
• Ripped Screen____________________
• Wait for Product___________________
• QC Hold__________________________
• Print Approval_____________________
• Other_____________________________
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