T-SHIRT PRINTING FOR FUN AND PROFIT

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2007 FIRST Robotics Conference
Outline

- Motivation - It’s simple, easy, fun and inexpensive!
- Examples of what you can do - not just T-Shirts!

- Step 1: Preparation
- Step 2: Making the Screen
- Step 3: Printing the shirt

- Live Demo - Print your own shirt!
- Reference materials (how to make/buy supplies)
MOTIVATION

• **COST:** You can print shirts yourself for $1 to $2 ea

• **Profit:** You can Print/SELL T-Shirts for every organization in your school and community!

• **FUN:** It’s fun to do and the kids take a lot of pride in doing it

• **NON-TOXIC:** Method we will use today is water based - no chemicals involved
EXAMPLES - Not Just T-Shirts!

- Plaques/Awards
- Signs
- Tote Bags
- Pants
- Robot Décor
- etc

- If you can draw it on the computer - you can PRINT IT!
Keys to a good Design

- Keep lines thick/bold
- Keep Text Large
- Round Design are easier because you can’t tell when they are crooked on the shirt
- Print onto Transparency AS DARK AS POSSIBLE.
  - Inkjet printers work real well for this.
  - I use two layers of Laser Printer output.
- Keep it SIMPLE - avoid lots of little detail
  - Examples
PREPARATION:

• You’ll need:
  - Cool Dark Place to work - Basement is ideal
  - A large area to print & layout shirts
  - A Light Fixture for burning screens
  - Screen Printing Machine - purchase or easy to make
  - Screen Supplies
  - Squeegee
  - Tape
  - Ink & Emulsion

See list at end of presentation for details
Making the Screen:

- Make wood frame out of 2x2’s
- Cut kerf with table saw & screw/glue together
- Stretch screen across wood frame w/ spline
- Paint Screen w/ emulsion
- Let Dry over night

Design has not been burned in at this point (pretend this one isn’t here)
Burning The Screen

- Place upside down under 250W heat lamps, on Foam supports
- Place transparency of design upside down
  - Three Finger Rule
- Place Glass on top
- Lights on: 6-10 min w/fans
- Turn Lights off
- Spray and let soak for 5 minutes or so ..
- Blast out with garden hose outside, then air compressor
Printing The Screen:

- Tape over holes
- Mount on machine
- Squeegee Ink onto Shirts
- Secret: Use Sticky Stuff in a Can to keep shirt positioned
- Dries to touch in 45 min
- Can wash next day.

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Closing Thoughts ...

- It’s an Art, not a Science
  - It’ll take a couple tries to get the hang of it

- Make extra screens - they are easy to mess up

- We can print about 200 Shirts per hour on a good day

- Contact us if you have any questions.
  - Our contact info is at www.ForsythAlliance.com
LIVE DEMO

• You can print on your shirt

• or, We have some you can purchase

• Time permitting we’ll be happy to print as many as possible (including other team members)

• Let’s go!
**Materials/Resources**

**Stores:** I use DICK BLICK for the emulsion, Screen Fabric and Ink.

**Supplies:**
- Squeegee - a MUST! (Dick Blick Has ‘em)
- Ink - I use the water based Dick Blick Brand
- Emulsion  - I like Ulano-TZ. Water based, easy clean up, stores for months.
- Screen Fabric - I use 8XX
- Wood Screen Frames - I make my own
- Screen Roller - Get it a Lowes or Home Depot
- Screen Spline - Get it at lowes or Home Depot
- Spray bottle of sticky stuff - “Re-positionable adhesive”, Hobby Lobby
- Printing Press - I made my own press, though a piece of masonite will work fine
- Heat Lamp(s) - I use 4 250Watt Heat Lamps from Home Depot
- Dark garbage Bags to store dry unexposed frames in
- Duct Tape or clear packing tape - you’ll use lots of this.
- Scissors and or knife to cut tape
- Water Spray Bottle and a scrub brush.
Reference Page

- For step by step instructions and examples of T-Shirts go here:

  - ftp://ricreations.com/htdocs/TSHIRTS/

- There are also pictures of the printing press for your reference

- Contact us at www.ForsythAllaince.com