MAKE + TAKE

SCREEN PRINTING

Speedball®

MAKE + TAKE
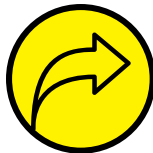## SCREEN PRINTING

Notes

OBJECTIVES:

EDUCATE
- Communicate the technique of screen printing
- Inform on basic tools required and use of each

INSPIRE
- Conduct hands-on demonstration to show end result of the photo emulsion method of screen printing
- Leverage visual aids to illustrate benefits and real-life applications

ENCOURAGE
- Provide awareness of Speedball kits/ products (one-stop shop) as well as additional available resources
- Connect with retail partner for purchase

FAQs
ON PAGE 24

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Demystify the screen printing process with hands-on experience

MAKE + TAKE
SCREEN PRINTING

Notes

KIT CONTENTS:

SCREEN
- (2) 10in x 14in Wood Frame
  - (1) pre-burned | (1) clean
- (1) 10in x 14in Wood Frame + Base w/ hinges

SQUEEGEE
- (1) Red Baron™

INK
- (4) 4oz Fabric Inks (Red, Blue, Yellow, Black)
- (1) 4oz Professional Acrylic Ink (Poster Black)

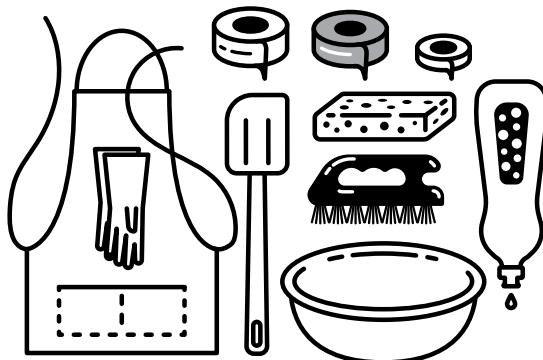**STENCIL**
- (1) Diazo Photo Emulsion Set

TOOLS
- (1) Block Out Tape
- (1) Transparency Pack (1 pre-printed)

PAPER
- (1) Speedball Printmaking Paper

OTHER
(5) Craft Sticks

(1) Newsprint (cut sheets)

(2) Created Visual Aid(s)

(1) Instruction Manual

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SCREEN PRINTING

Notes

OVERVIEW

There are three primary means of producing a screen printed image, each one with their own features, benefits, and limitations. Before getting started, read through these descriptions to see which technique best suits your artwork and interest, or matches the kit purchased.

1 KLMNOPG

CUT PAPER STENCIL

BEST FOR:

- Fast, graphic image-making
- Introducing yourself to the screen printing technique

FEATURES:

This technique relies on cutting your stencil out of thin paper. Given its simplicity, it requires the least amount of preparation, but paper stencils also allow for limited detail.

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SCREEN PRINTING

Notes

DRAWING FLUID & SCREEN FILLER

BEST FOR:

- Hand-drawn/painted imagery
- Greater detail and control without need for exposure

FEATURES:

Drawing fluid and screen filler work together to create a painted stencil. This is an effective technique for detailed hand-drawn images, or images with a "painterly" quality.
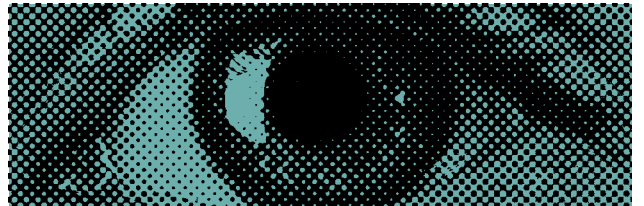

PHOTO EMULSION

BEST FOR:

- Creating a photographic stencil of a pre-printed black and white image.

FEATURES:

Photo emulsion allows for highest fidelity and detail. Almost anything you can print from a black and white printer you can expose as a photo stencil. Because of the specific tools and intricate steps, this is also the most complicated technique.
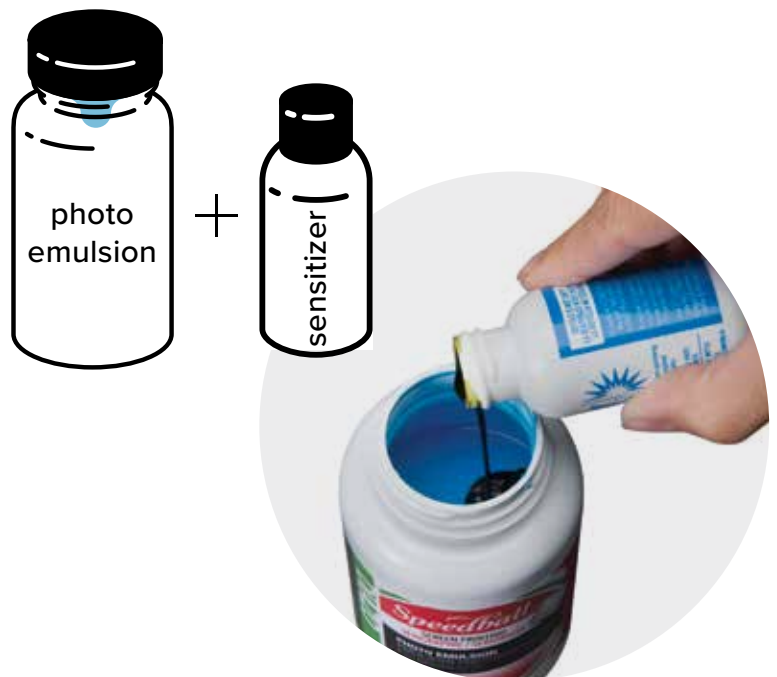
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SCREEN PRINTING

Notes

STEP 1: MIXING EMULSION

- Fill the sensitizer bottle approximately ½ full with water (tap or distilled water works just fine.)

- Recap sensitizer bottle and shake vigorously! A craft stick can be used to scrape at the bottom to ensure all the material is stirred and dissolved.

- Carefully pour your mixed bottle of sensitizer into the bottle of photo emulsion.

- Stir well with a stir stick until all the sensitizer is thoroughly mixed into the photo emulsion and it turns a grassy green.

- Store any unused emulsion in a cool, dark place.

photo emulsion + sensitizer

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DEMO PROGRAM

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SCREEN PRINTING

STEP 2: COATING THE SCREEN

The goal of coating a screen is to thoroughly permeate the mesh with emulsion without overly saturating it and leaving emulsion dripping off your screen as it dries.

- Lay the screen horizontally over a sink or tub.

- Pour a generous bead of your mixed emulsion along one end of your frame.

- Place your squeegee behind the mixed emulsion and in a nice easy motion, draw it across the screen, coating the screen with emulsion as you go.

- Continue this step with the squeegee to ensure the one side is fully coated.

- Repeat this same step so you coat one side (length-wise) and then rotate and flip your screen to coat the other side (width-wise.)

- To remove excess emulsion, run your squeegee over your screen lightly. The extra emulsion can be collected back into the bottle.
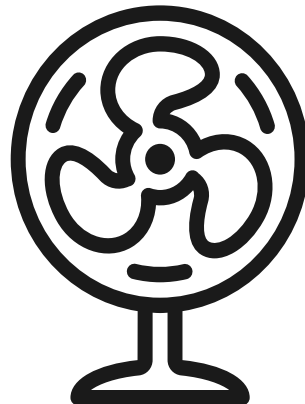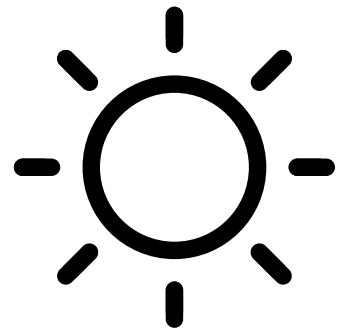

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SCREEN PRINTING

Notes

STEP 3: DRYING SCREEN

When your emulsion dries it becomes light sensitive and requires your screen to be kept in a dark place. Cupboards, closets, empty drawers, etc. are all great places.

- Lay your screen horizontally to dry for a minimum of 4 hours. (Putting a fan on the screen will help speed up the drying time.)

- Keep your screen out of light until you are ready to expose.

- You can leave a coated screen unexposed (in a dark place out of direct light and heat) for 1-2 weeks.
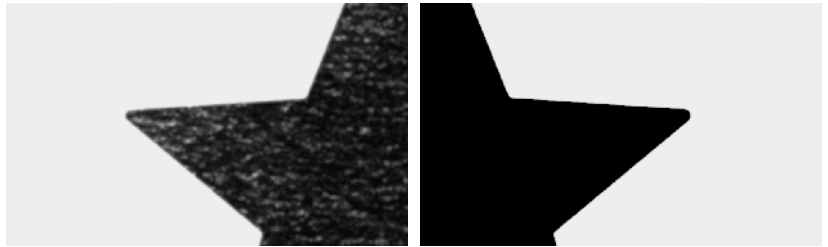
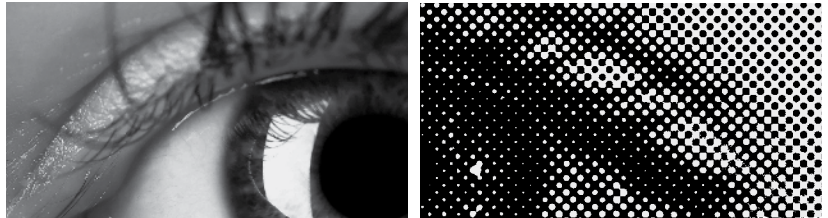*Speedball*®

MAKE + TAKE
SCREEN PRINTING

Notes

STEP 4: CREATING ARTWORK

The best image for photo emulsion is any artwork with a clear distinction between the black image and the white background. *(Watercolor washes and light drawings will not expose well.)*

semi-opaque black   fully-opaque black

photographic image   "halftone" image

Another popular and effective way to create an image is to send a high-contrast, opaque image through a black and white laser or ink jet printer on a transparency sheet.

The more opaque the artwork, the better.

If using an actual photographic image, you may need to explore how to digitally create a black and white "halftone" of the image before you print it. Images with gray tones will not expose well.

INK JET IS BEST
SPEEDBALL TRANSPARENCY SHEETS ARE FOR USE WITH INK JET PRINTERS ONLY!
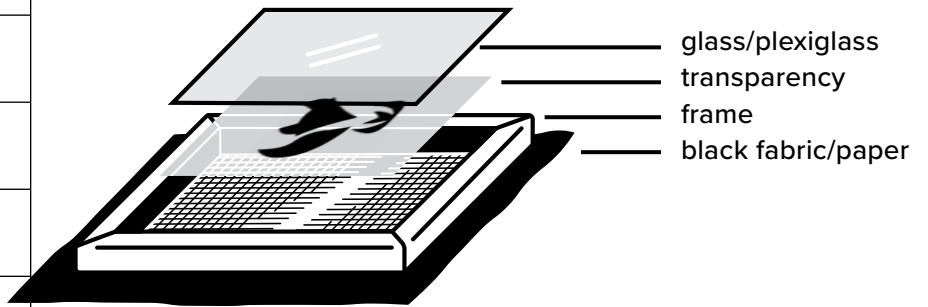
Speedball®

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MAKE + TAKE
SCREEN PRINTING

Notes

STEP 5: EXPOSING THE IMAGE

The amount of time it will require to properly expose your image will depend mostly on your light source.

glass/plexiglass
transparency
frame
black fabric/paper

- Place your screen directly underneath your light source, with the light source placed approximately as far from your screen as the diagonal measurement of the screen to ensure that the light source is far enough away to evenly expose your entire image.

- Place something black *(black shirt, black piece of paper, black foam-core, etc.)* under your screen, your black and white artwork on top, and a piece of glass or plexiglass in the screen on top of your artwork to press it into tight contact against your screen.

KEEP IT TIGHT!
ANY WARPS OR BENDS IN YOUR TRANSPARENT SHEET WILL LEAD TO A BLURRY STENCIL.

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MAKE + TAKE
SCREEN PRINTING

Notes

STEP 6: WASHING OUT STENCIL

- Using a spray nozzle or hose, apply a forceful spray of water to both sides of your screen.

- Concentrate the water on your artwork as the water slowly reveals your stencil.

- Continue spraying until all unwanted emulsion is gone and you can easily see your stencil. You can check by holding your screen up to a light and confirm there is no green emulsion in your stencil.

- If your stencil is a bit "stubborn," light scrubbing with a soft bristle brush over the screen can expedite the washout process.

DAB!
THE EMULSION IS STILL WET

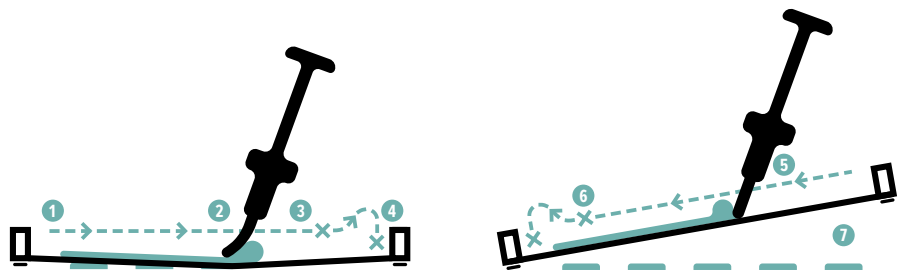*Speedball*®

MAKE + TAKE
SCREEN PRINTING

Notes

STEP 7: PRINTING THE IMAGE

1. Scoop out and add a few tablespoons of ink along the top of the screen (farthest from you).

2. Place your squeegee behind the ink, tilted approximately 60 degrees in order to create a sharp print edge. Pull the squeegee toward you and across your image, evenly applying as much pressure as it might require to open a heavy door.

3. Stop your pull BEFORE you reach the bottom of the screen.

4. Lift your squeegee, and place it in FRONT of the bead of ink.

5. Applying light to no pressure at all, "flood" the ink back over your screen and image, towards the top of the screen.

6. Finish your flood stroke BEFORE you reach the top of the screen, lift your squeegee, and lean it against the back of the screen, behind the ink.

7. Lift your screen to reveal your print and experience the magic of screen printing!
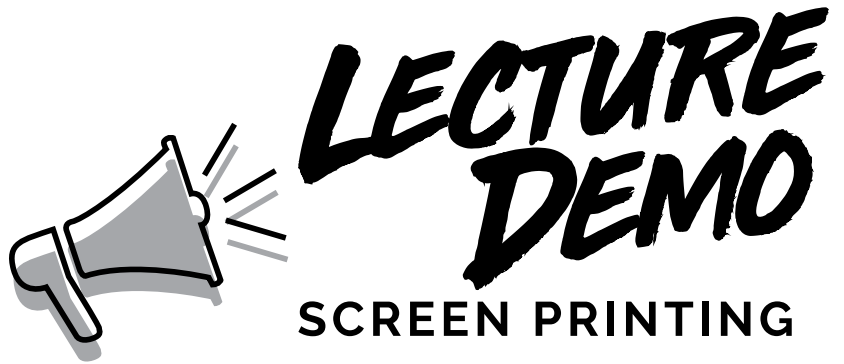
Speedball®

LECTURE DEMO

SCREEN PRINTING

Speedball®

DEMO PROGRAM

LECTURE DEMO
SCREEN PRINTING
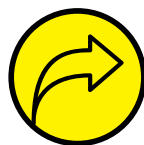
Notes

OBJECTIVES:

EDUCATE

- Communicate the technique of screen printing
- Inform on basic tools required and demonstrate use of each
- Impart personal work/teaching to show value and correlate use of each technique in everyday life

INSPIRE

- Conduct hands-on demonstration with participation of audience at each applicable step
- Allow participants to experiment with key steps of each of the three methods of screen printing to permit for personal creativity
- Leverage visual aids to illustrate benefits and provide idea stimulation

ENCOURAGE

- Provide awareness of Speedball kits/ products (one-stop shop) as well as additional available resources
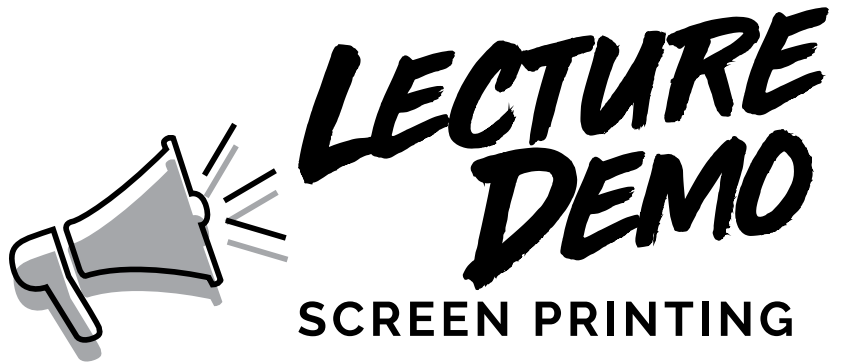- Connect with retail partner for purchase

FAQs
ON PAGE 24

Participants gain further knowledge of the screen printing process through the eyes of a true professional

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LECTURE DEMO

SCREEN PRINTING

Notes

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KIT CONTENTS:

SCREEN
- (2) 10in x 14in Wood Frame
  - *(1) pre-burned | (1) clean*
- (1) 10in x 14in Wood Frame + Base w/ Hinges

SQUEEGEE
- (1) Red Baron™
- (1) Craft Fabric

INK
- (4) 4oz Fabric Inks (Red, Blue, Yellow, Black)
- (4) 4oz Acrylic Inks (Red, Blue, Yellow, Black)
- (1) 4oz Professional Acrylic Ink (Poster Black)

STENCIL
- (1) Bienfang® Graphics 360™ Marker Paper
- (1) Drawing Fluid & Screen Filler Set
- (1) Speed Clean™
- (1) Diazo Photo Emulsion Set

TOOLS
- (1) Excel® Knife
- (1) Hinge Clamps
- (1) Paint Brush
- (1) Speedball Light Kit
- (1) Block Out Tape
- (1) Scoop Coater
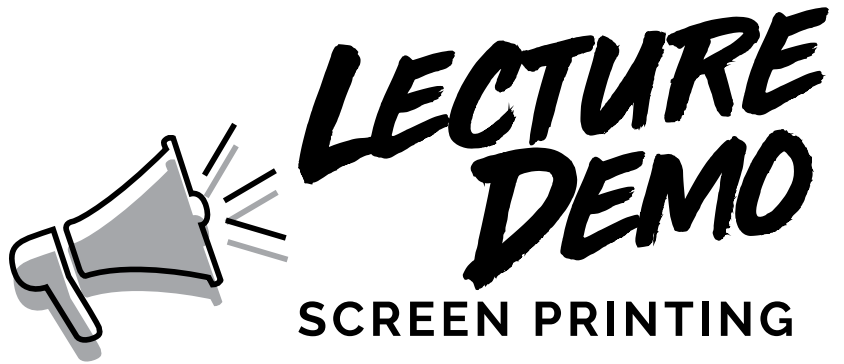- (1) Transparency Pack (1 pre-printed)

PAPER
- (1) Speedball Printmaking Paper

OTHER
- (9) Craft Sticks
- (1) Plexiglass
- (1) Pink Soap®
- (1) Newsprint (cut sheets)
- (2) Created Visual Aid(s)

DEMO PROGRAM

LECTURE DEMO
SCREEN PRINTING

Notes

OVERVIEW

Explain there are three primary means of producing a screen-printed image (i.e. stencil), each one with their own features, benefits and limitations.

Describe each technique and how each one is going to be used (or not) throughout the demonstration time.

Reference your visual aids for guidance (show & tell).

1

CUT PAPER STENCIL

BEST FOR:

- Fast, graphic image-making
- Introducing yourself to the screen printing technique

FEATURES:

This technique relies on cutting your stencil out of thin paper. Given its simplicity, it requires the least amount of preparation, but paper stencils also allow for limited detail.

Speedball.

Notes

2

DRAWING FLUID & SCREEN FILLER

BEST FOR:

- Hand-drawn/painted imagery
- Greater detail and control without need for exposure

FEATURES:

Drawing fluid and screen filler work together to create a painted stencil. This is an effective technique for detailed hand-drawn images, or images with a "painterly" quality.
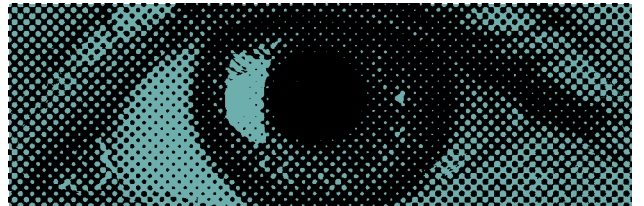
3

PHOTO EMULSION

BEST FOR:

- Creating a photographic stencil of a pre-printed black and white image.

FEATURES:

Photo emulsion allows for highest fidelity and detail. Almost anything you can print from a black and white printer you can expose as a photo stencil. Because of the specific tools and intricate steps, this is also the most complicated technique.

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LECTURE DEMO
SCREEN PRINTING

Notes

STEP 1: DESIGN PHASE
CUT PAPER 1

- Outline what it is and is not possible with a cut stencil. (e.g. the inner circle of the letter "O," etc.)

- Show how to draw an image (design) directly onto the sheet of Marker Paper.

- Communicate need to allow for at least 2in margins on all sides, between image and inside of the screen frame.

- Use a utility knife to create a simple shape / design out of the Marker Paper.
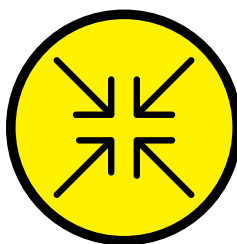

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LECTURE DEMO

SCREEN PRINTING

Notes

STEP 2: SCREEN PREP PHASE
CUT PAPER ❶

- Make sure your frame, and if applicable, hinge clamps are properly secured.

- Using the block out tape, tape off an area around your paper stencil that is slightly smaller than the paper stencil itself. Explain this will keep ink from bleeding out from around the edge of your stencil.

- Place project (e.g. printmaking paper, t-shirt, etc.) under cut stencil and screen.

MAKE IT STICK:

ADHERE STENCIL BY TAPING IT TO SCREEN OR USE THE FIRST PASS OF INK TO STICK IT TO THE SCREEN.

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*LECTURE
DEMO*

SCREEN PRINTING

Notes

STEP 3: PRINTING PHASE
CUT PAPER **1**

- Scoop out and add a few tablespoons of ink along the top of the screen.

- Place the squeegee behind the ink, tilted approximately 60 degrees in order to create a sharp print edge. Pull the squeegee toward you and across the image, evenly applying as much pressure as it might require to open a heavy door.

- Stop your pull BEFORE you reach the bottom of the screen, and lift your screen slightly to separate the screen from your print surface.

- Lift your squeegee, and place it in FRONT of the bead of ink.

- Applying light to no pressure at all, "flood" the ink back over your screen and image, towards the top of the screen.

- Finish your flood stroke BEFORE you reach the top of the screen, lift your squeegee, and lean it against the back of the screen, behind the ink.

- Lift your screen and...see the miracle of screen printing
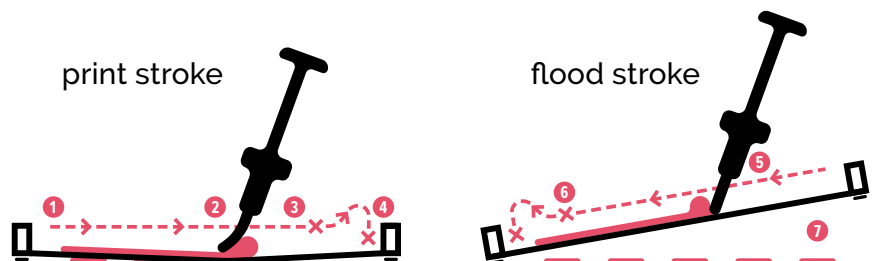
print stroke   flood stroke

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LECTURE DEMO
SCREEN PRINTING

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STEP 4: CLEAN-UP PHASE

Communicate the criticality of clean-up and how it is an essential component of craftsmanship and critical for maintaining tools.

Demonstrate the clean-up process by instructing on the following:

- Remove any excess ink from the screen and squeegee by using a spatula, squeegee or hand-held scraper. Collect any excess ink and return it the jar or any other airtight container.

- After the excess ink is removed, use soapy water to clean the screen and squeegee.

STAIN PAIN

IT IS NORMAL FOR SOME INKS *(E.G. BLACK OR RED COLORS)* TO PERMANENTLY STAIN THE SCREEN

LECTURE DEMO

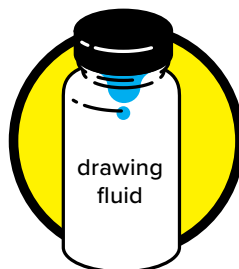## SCREEN PRINTING

STEP 1: DESIGN PHASE
DRAWING FLUID ②

Illustrate how to either sketch an image out on paper first or draw artwork/design directly onto screen.

GIVE IT SOME SPACE! Communicate need to allow for at least 2in margins on all sides, between image and inside of the screen frame.

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DRY DRY DRY
THE SCREEN NEEDS TO BE COMPLETELY DRY BEFORE MOVING ONTO THE NEXT STEP.
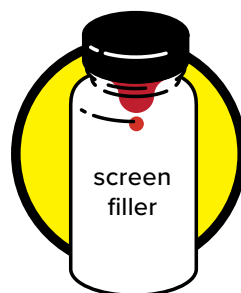
drawing fluid

Notes

STEP 1: DESIGN PHASE *(cont'd)*
DRAWING FLUID **2**

- Explain that the purpose of screen filler is to coat all areas of the screen which you do not want to print.

- Show how to mix/stir the screen filler thoroughly.

- Carefully demonstrate how to drizzle a small amount of screen filler along one end of the frame onto the same side of the screen as the drawing fluid.

- Communicate this should be done with a SINGLE PASS of the squeegee (or scoop coater) and coat the entire screen including the drawn image.

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DRY DRY DRY

AGAIN, THE SCREEN NEEDS TO BE COMPLETELY DRY BEFORE MOVING ONTO THE NEXT STEP.

screen filler

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LECTURE DEMO
SCREEN PRINTING

## STEP 2: SCREEN WASHOUT PHASE DRAWING FLUID 2

- Noting the screen filler is completely dry, demonstrate how to rinse the screen front and back, with cold or room temperature water.

- Explain as the water continues to rinse onto the screen, the blue drawing fluid will begin to wash away from underneath the screen filler and reveal the painted stencil.

- Show how to hold the screen to the light to check on the quality of the painted stencil.

- Once effectively washed out, communicate need to set screen aside and let it completely dry one last time.
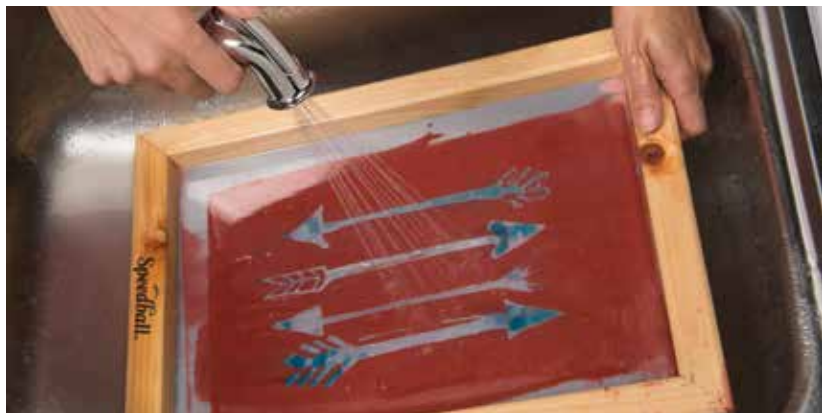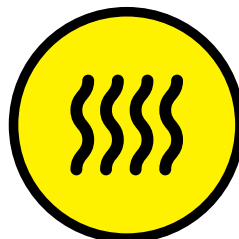
DRY DRY DRY
LAST TIME! THE SCREEN NEEDS TO BE COMPLETELY DRY BEFORE MOVING ONTO THE NEXT STEP.

DEMO PROGRAM

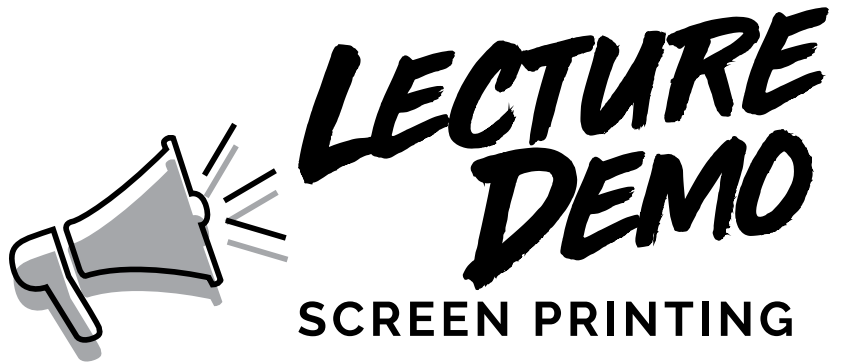**LECTURE DEMO**

SCREEN PRINTING

Notes

STEP 3: PRINTING PHASE

1. Scoop out and add a few tablespoons of ink along the top of the screen.

2. Place the squeegee behind the ink, tilted approximately 60 degrees in order to create a sharp print edge. Pull the squeegee toward you and across the image, evenly applying as much pressure as it might require to open a heavy door.

3. Stop your pull BEFORE you reach the bottom of the screen, and lift your screen slightly to separate the screen from your print surface.

4. Lift your squeegee, and place it in FRONT of the bead of ink.

5. Applying light to no pressure at all, "flood" the ink back over your screen and image, towards the top of the screen.

6. Finish your flood stroke BEFORE you reach the top of the screen, lift your squeegee, and lean it against the back of the screen, behind the ink.

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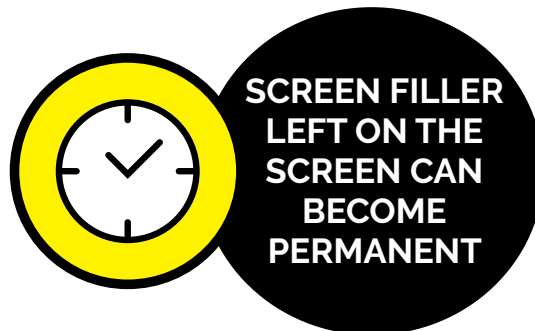# DEMO PROGRAM

Notes

LECTURE DEMO
SCREEN PRINTING

STEP 4: CLEAN-UP PHASE

Communicate the criticality of clean-up and how it is an essential component of craftsmanship and critical for maintaining tools.

Demonstrate the clean-up process by instructing on the following:

- Remove any excess ink from the screen and squeegee by using a spatula, squeegee or hand-held scraper. Collect any excess ink and return it the jar or any other airtight container.

- After the excess ink is removed, use soapy water to clean the screen and squeegee.

- Explain the option of reclaiming the screen by using Speed Clean.
  - If selected, the sooner the better; the sooner you remove the screen filler, the easier it will be to reclaim the screen.

SCREEN FILLER LEFT ON THE SCREEN CAN BECOME PERMANENT
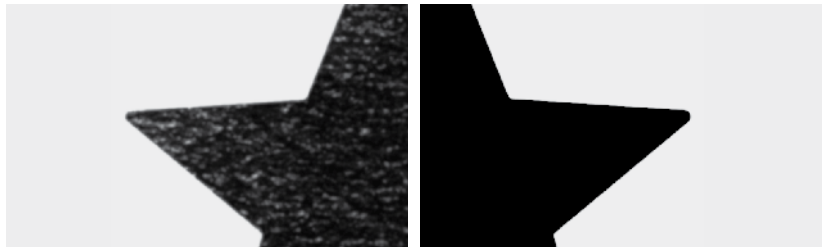
Speedball®

LECTURE DEMO

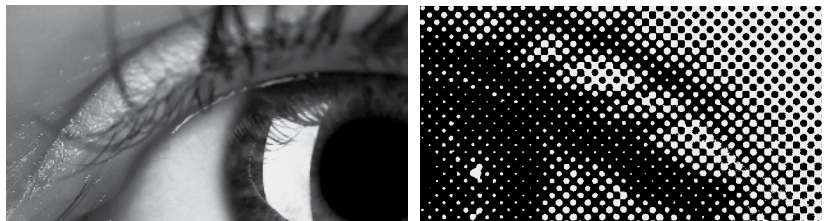## SCREEN PRINTING

Notes

STEP 1: STENCIL PHASE
PHOTO EMULSION ③

- Educate on the most effective image for use with photo emulsion is any artwork with a clear distinction between the black image and the white background.

- A popular and effective way to create an image is to send a high-contrast, opaque image through a black and white laser or ink jet printer on a transparency sheet.

- Communicate the artwork must be opaque! Images with gray tones will not expose well.

semi-opaque black

fully-opaque black

photographic image

"halftone" image

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LECTURE DEMO
SCREEN PRINTING

Notes

STEP 2: SCREEN PREP PHASE
PHOTO EMULSION ③

Explain that Speedball's Diazo Photo Emulsion is a 2-step process where the photo emulsion needs to be "activated." To activate the emulsion, sensitizer must be added. The sensitizer is a very thick oil and needs water to create the right consistency for adding it to the photo emulsion.

1. Illustrate how to fill the sensitizer bottle approximately ½ full with water.

2. Recap sensitizer bottle and shake vigorously.

3. Open the bottle of photo emulsion and show the audience the bright blue color.

4. Carefully pour the mixed bottle of sensitizer into the bottle of photo emulsion.

5. Stir well with a stir stick until all the sensitizer is thoroughly mixed into the photo emulsion.

6. Show the audience how the photo emulsion has now turned to a grassy green color.

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LECTURE DEMO

SCREEN PRINTING

Notes

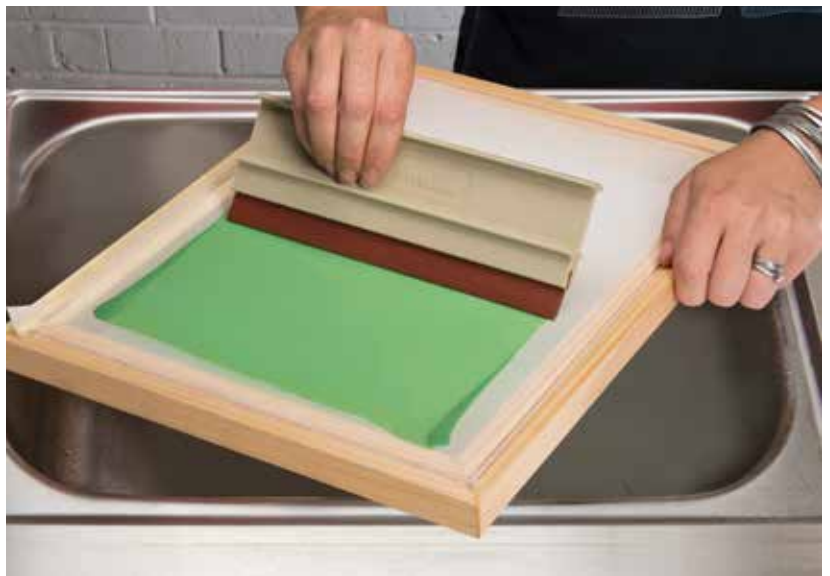## STEP 2: SCREEN PREP PHASE *(cont'd)*
PHOTO EMULSION ③

- Show how to pour a generous bead of the mixed emulsion along one end of a frame.

- Place a squeegee behind the mixed emulsion and in a nice easy motion, draw it across the screen, coating the screen with emulsion as you go.

- Continue this step with the squeegee to ensure the one side is fully coated.

- Repeat this same step so you coat one side (length-wise) and then rotate and flip your screen to coat the other side (width-wise.)

- To remove excess emulsion, run your squeegee over your screen lightly.

- Show how the extra emulsion can be collected back into the bottle.

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LECTURE DEMO
### SCREEN PRINTING

Notes

STEP 2: SCREEN PREP PHASE *(cont'd)*
PHOTO EMULSION ③

AFTER COATING, THE COATED SCREEN MUST BE KEPT OUT OF LIGHT until you are ready to expose. Communicate recommendation to dry a minimum of four hours, with overnight dry-time being ideal.

Describe the exposure element educating on the requirement of UV light to cure or "bake" the emulsion while the opaque artwork blocks out the light.

Explain the exposure table found in the Manual.

glass/plexiglass
transparency
frame
black fabric/paper
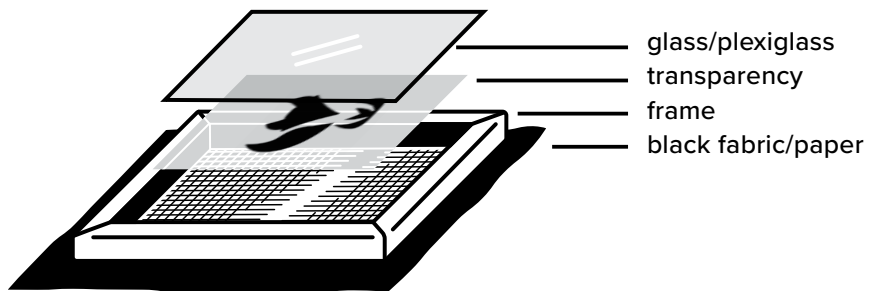
Illustrate the "Exposure Sandwich" and explain the rationale for each layer.

Place something black (e.g. black shirt, piece of paper, foam-core, etc.) under your screen, then place your black and white artwork on top of your screen and lastly a piece of glass or plexiglass on top of your artwork.

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DEMO PROGRAM

LECTURE DEMO

SCREEN PRINTING

Notes

STEP 2: SCREEN PREP PHASE *(cont'd)*
PHOTO EMULSION ③

Show how to place the screen directly underneath the light source.

Black Fabric / Paper: Absorbs the light and prevents light from bouncing back and exposing unwanted areas.

Glass / Plexiglass: Helps keep artwork tight against emulsion *(Make sure it is non-UV blocking glass/plexiglass)*

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LIGHT IT UP
Show how to hold the screen to the light to check on the quality of the stencil.

LECTURE DEMO

SCREEN PRINTING

Notes

STEP 3: SCREEN WASHOUT PHASE PHOTO EMULSION ③

- Communicate how to use a spray nozzle or hose to apply a moderately forceful spray of water initially to both sides of the screen and then to concentrate the water on the design.

- Explain how the water will slowly dissolve the uncured emulsion revealing the stencil. NOTE: Continue spraying until all unwanted emulsion is gone and you can easily see your stencil.

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DAB!
THE EMULSION IS STILL WET
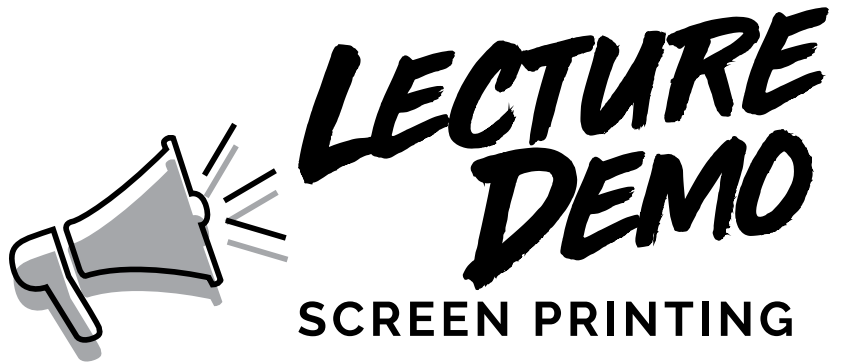
LECTURE DEMO

SCREEN PRINTING

STEP 4: PRINTING PHASE
PHOTO EMULSION ③

1. Scoop out and add a few tablespoons of ink along the top of the screen.

2. Place the squeegee behind the ink, tilted approximately 60 degrees in order to create a sharp print edge. Pull the squeegee toward you and across the image, evenly applying as much pressure as it might require to open a heavy door.

3. Stop your pull BEFORE you reach the bottom of the screen, and lift your screen slightly to separate the screen from your print surface.

4. Lift your squeegee, and place it in FRONT of the bead of ink.

5. Applying light to no pressure at all, "flood" the ink back over your screen and image, towards the top of the screen.

6. Finish your flood stroke BEFORE you reach the top of the screen, lift your squeegee, and lean it against the back of the screen, behind the ink.

Notes

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LECTURE DEMO

SCREEN PRINTING

Notes

STEP 5: CLEAN-UP PHASE
PHOTO EMULSION 3

Communicate the criticality of clean-up and how it is an essential component of craftsmanship and critical for maintaining tools.

Demonstrate the clean-up process by instructing on the following:

- Remove any excess ink from the screen and squeegee by using a spatula, squeegee or hand-held scraper. Collect any excess ink and return it the jar or any other airtight container.

- After the excess ink is removed, use soapy water to clean the screen and squeegee.

Want to start from scratch? Explain the process of reclaiming the screen by using Photo Emulsion Remover.

If selected, the sooner the better; the sooner you remove the photo emulsion, the easier it will be to reclaim the screen

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(DIS)SOLVING THE PROBLEM:
Water can act to set the emulsion into the screen mesh and become permanent. To avoid, be sure the emulsion remover fully dissolves the emulsion prior to water making contact when reclaiming.