Screen Printing Instructions

Instuctions d'impression d'écran

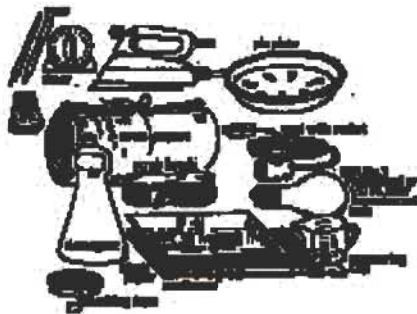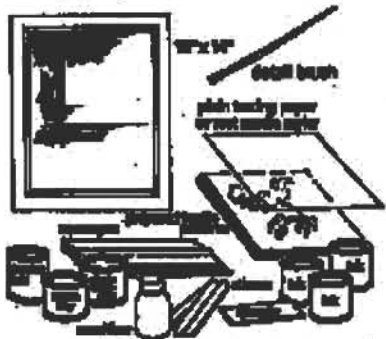# Instrucciones de serigrafiado

Speedball®

PREPARING YOUR WORK AREA

Clear an area for your project. A card table (or similar space) will provide enough work area. It is necessary to locate your work area with easy access to a large sink or laundry tub with hot and cold water.

If you plan to make a large number of prints, you may wish to set up a "clothesline" that will enable you to hang your prints with either clothespins or binder clips for drying.

Additional Items To Have On Hand

- Water resistant masking tape (1" wide)
- Screw driver
- Old newspapers
- Sheet of cardboard
- Small nylon scrub brush
- Scissors
- Small lamp or lamp cord with a standard socket BBA No. 1 photoflood or a clear 150 watt incandescent bulb.
  NOTE: Light bulbs may be found a most photo supply stores.
- Reflector shop light (available at any hardware store). You may also use an aluminum pie pan as your reflector (cut a hole large enough for the light socket to fit through, slide socket through the hole and screw light bulb in place).
- Cellophane tape
- Paper cups
- Speedball® Super Black India Ink
- Old towels, rags, paper towels
- 9" x 12" piece of glass, Plexiglas, or Lucite
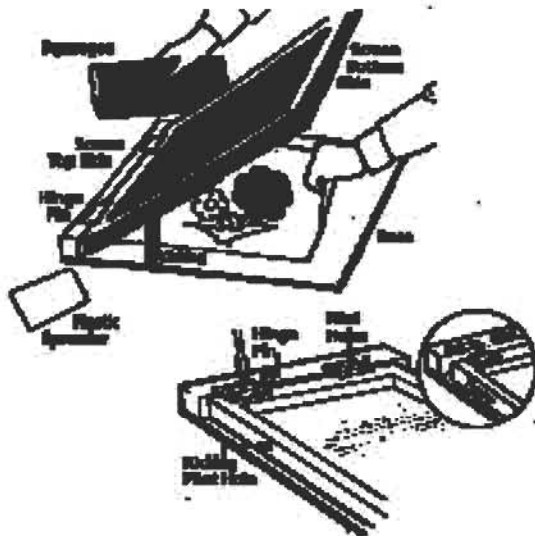- Rubber gloves
- Apron or smock

PREPARING YOUR TOOLS

Step A
Two hinges with screws and removable pins are included in some Speedball® kits. These are easily attached by first joining the halves together with hinge pins. It is best to mount the side of the hinge with two bearings to the base and the side of the hinge with one bearing to the screen frame. Then, position the assembled hinges over the "pilot" holes on top of the frame and base and screw them in place. Be sure they are right side up. Speedball® offers heavy duty hinge clamps for bigger screens. Follow this by screwing the kickleg to the side of the frame. A "pilot" hole has been provided for this also. Note the kickleg should be "free-swinging".

Step B
The next important step in preparation is to detach the frame from the base and scrub both sides of the screen fabric with a nylon brush and dishwasher powder/water solution.

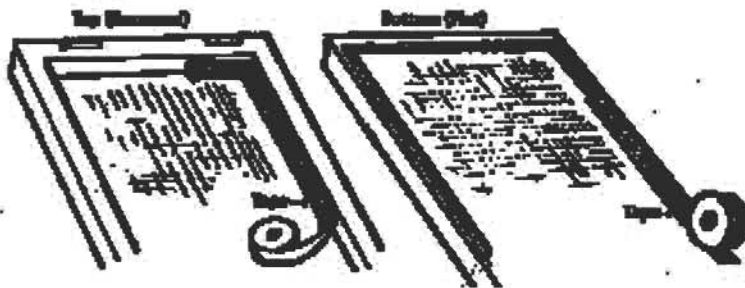Let it dry thoroughly after rinsing. For water-based inks, use 1" wide water-resistant masking tape. Lay the tape so it is divided equally half on the screen fabric, and half on the screen frame. Turn the frame over and cover the groove with tape. Be certain that the tape extends beyond the frame and onto the fabric. For solvent-based inks, use seal gummed water-soluble tape with several coats of polyurethane.

Taping in this way helps to maintain a "tight" screen, and prevents ink from leaking under the screen frame during printing and will keep the edges of your prints clean. To get maximum adhesion of the tape, rub it with a spoon. When choosing your pattern or design make sure to leave a generous border from the taped edges (minimum of 1" from taped edge).

Step C

There are a number of ways to prepare a screen to print your picture or message. While the methods are different, the basic principle is to make a stencil on the screen fabric which allows ink to be forced through its "open" areas to produce a design.

PREPARING SCREENS

PAPER STENCIL METHOD

This is the best method for a beginner. It is the fastest, least expensive, and simplest way to prepare a screen. The Paper Stencil Method is good for geometric shapes and basic patterns. It is not intended for complicated designs or lettering. Begin by cutting an illustration from paper. Keep the paper flat and not wrinkled. For more accurate and durable cut paper stencils, use freezer wrap (shiny side up). Designs can be cut with scissors or stencil knife or they can be torn to create a textured appearance.

Step A

Cut your paper stencil. You may wish to create a design by folding and cutting your paper as illustrated. For your stencil, you can use either the cutout or the paper remaining.

Step B

Position printing paper under the frame. Lay your cutouts on this paper as desired and lower the screen.

Step C

Follow the directions found in section "Making Prints". Press down on the screen frame to ensure complete contact with all cutouts. Make your first print. You will find with the first pass of the squeegee, the ink will cause the cutouts to stick

to the underside of the screen, creating a stencil effect. Once you see how simple this method is, you may wish to try variations by creating two or three designs with torn paper of various shapes and printing each in a different color or hue. Do not overlap cutout pieces on the screen. *NOTE: Generally ten to fifteen prints can be satisfactorily produced by this method. When a larger number of prints are desired, you should use one or more "permanent" methods.*

SCREEN FILLER METHOD
(Direct block-out or "Negative Method")

Using Screen Filler is another simple means of preparing a screen for printing. The screen filler is used to block out those areas that you do not wish to print. This allows the ink to be forced through the screen wherever the Screen Filler has not been applied.

Step A

On a sheet of plain paper, make up the illustrations or message you wish to print with your screen. Place this layout on a tabletop. Place your screen over this layout and trace your design directly on the screen fabric using a soft lead pencil.

Step B

Stir the Screen Filler until it is thoroughly mixed to a smooth consistency. Using a paintbrush, paint the screen filler on all areas of your layout that you do not want to print. Be certain that the bottom of the screen is elevated (not touching the table). When all areas to be blocked out are covered with Screen Filler, flip the screen over and smooth out places the filler may have collected on the opposite side of the screen. Be careful during this smoothing out process not to distort your work.

Step C

Leave the screen to dry in a level position. Make sure nothing touches the areas covered with Screen Filler. Thorough drying is necessary. Overnight drying is recommended to assure best results.

Check for pinholes in the blocked-out areas. You can do this by holding the screen up to a light. Fill any pinholes with Screen Filler and allow to dry completely. You are now ready to print. **NOTE:** Since Screen Filler is applied to all areas which are not to be printed, this – along with all traditional "direct" methods – is considered to be a "negative" method of printing. Your print will be the opposite of that which you created in your screen.

DRAWING FLUID – SCREEN FILLER METHOD
(Tusche – resist or "positive method")

Step A
On a sheet of plain paper, make up the illustration or message you wish to print with your screen. Place this layout on a tabletop. Place your screen over this layout, top side up. Trace your design directly on the screen fabric with a soft lead pencil.

Step A *(Alternative)*
The preparation of a layout is to help guide the application of Drawing Fluid. If you feel such a guide is unnecessary, go directly to Step B.

Step B
You can work on either side of the screen. Remember, however, that your printing will be done from the top *(or "ink-fill")* side of the screen.

Be certain that the screen is elevated – not touching the table. Using a paintbrush, paint the Drawing Fluid over those areas of your layout that you want to print. Leave the screen to dry in a level, flat position. Make sure nothing touches the areas covered with Drawing Fluid.

Step C
After the Drawing Fluid is completely dry, open the Screen Filler and mix it thoroughly to a smooth consistency. Spoon it onto the screen fabric on the same side of the screen used for the application of Drawing Fluid.
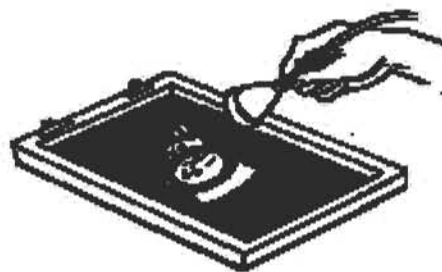
Use the squeegee or the plastic spreader to apply an evenly smooth coating over the entire screen. Make only one pass. Multiple passes of Screen Filler will dissolve the Drawing Fluid and prevent character washout. Again, put the screen to dry in a horizontal position making sure nothing touches the fabric. It is important that the Screen Filler dries completely.

Step D
When the Screen Filler has thoroughly dried, spray cold water on both sides of the screen. Concentrate the spray on the areas where Drawing Fluid was applied. These areas will wash out and the screen will open at the points so that ink can flow through them. If some areas remain slightly blocked, scrub them lightly with a small stiff brush on both sides. *(An old toothbrush will work well.)* If necessary you can use Greased Lightning or Washing Soda by Arm & Hammer dissolved in warm water *(1 cup per gallon of water)*. **DO NOT USE HOT WATER DURING THIS STAGE.** Allow your screen to dry in a level position, bottom-side up. Using a hair dryer or fan may accelerate drying time. Move to section marked "Making Prints".

PHOTOGRAPHIC EMULSION METHOD

Use polyester screen fabric. Nylon will stretch with water-based inks and is not suitable. Do not use silk or organdy if you wish to reclaim the screen.

This is one of the most exciting methods of screen printing because it offers the widest range of possibilities. It makes possible the printing of fine line drawings, various hand and commercial lettering techniques, as well as photographic half-tone positives.

All methods of photographic screen printing require three things:
1. A screen prepared with a light-sensitive coating (Photo Emulsion).
2. A film positive, or equal (Your printed transparency or acetate sheet).
3. A light source that will enable you to transfer the opaque images on your positive to the light-sensitive stencil you have prepared.

Step A – Mixing the photo emulsion
Diazo System: Follow the mixing instructions given on both containers. Store the sensitized emulsion in a cool and dark place. Shelf life for the sensitized emulsion is 4 weeks at 90°F, 8 weeks at 70° F, and 4 months when refrigerated.

Step B – Coating the screen
Coat the screen by first pouring a bead of the solution on one end of the bottom side of the screen. Spread it evenly and thinly with the squeegee. Use more solution where necessary, spreading evenly with the squeegee. Repeat this process on the backside of the screen, working to achieve an even continuous coating on both sides of the screen fabric. Return any of the excess solution to your mixing container. Be careful to clear away any extra drips of solution to obtain proper exposure.

Step C – Drying the coated screen

In an area AWAY FROM LIGHT AND HEAT, set the screen to dry horizontally, bottom side down. This will provide the most even, flat "film" on the underside of the screen. It will, however, require your elevating the four corners of the underside of the frame during the drying stage with push pins or other suitable devices. An empty drawer, cupboard, cabinet, closet, or under a cardboard box will work we allow the screen to dry thoroughly. If more than 300 prints are to be run, it is best to apply a second coating of the sensitized Photo Emulsion to the bottom of the screen after the first coat is dry. Remember, work for a smooth even THIN coating. Repeat the process away from heat and light.

Once the sensitized screen is dry, it must remain in a darkened area until it is ready to be exposed. A fan in the dark area will greatly speed up the drying of the emulsion on the screen.

Step D – Preparing a positive

With Speedball®'s Diazo System, the maximum allowable time between application of the sensitized emulsion to the screen and the exposure is four weeks at room temperature, in a completely dark environment.

A "positive" is any opaque image (usually black), on any transparent or translucent surface (like acetate). There are many ways you may choose to prepare them.

An excellent transparent film for this purpose is prepared acetate (printed directly on the acetate by your printer, or copying an image onto the acetate via copy machine). The printed sheets (positives) have copy and illustrations that may be used to create a picture or message. With the plain sheets, you may make artwork on your own with Speedball®'s Super Black Ink and an artist's brush, speedball Drawing Pens or enamel paint pens. Excellent results can also be obtained by using a dry transfer, or pressure sensitive letters and symbols. These can be applied directly onto tracing paper or clear plastic or acetate. The graphics must be opaque to light (not see-through). Natural items such as leaves may be used between the glass and stencil.

Another way of producing positives is through copy machines that have the capability of reproducing very opaquely on film or acetate, tracing paper, etc. In order to satisfactorily produce a positive using a copy machine, the following conditions must be met:
1. Black & White line work
2. Must be opaque photographic print
3. Must have high contrast.

Using a desktop computer, you can download many copyright-free images suitable for screen printing from any simple graphic program. You can print that image directly on to transparency material (acetate). You can also make copies on a copier that will accept transparencies.

TIP: To get a bold solid image, try making 2 copies of the same image on transparencies. Match the designs and tape together for use as a positive.

Step E – Light source

The BBA No.1 bulb is preferable, particularly for fine graphics because the exposure time is less. To set up your "light station" place the screen on top of a piece of black paper and center it 12 inches directly below a 150W clear incandescent bulb or a BBA No.1 Photoflood bulb. You can also us a light table with 20W florescent tubes. Either should be fitted with a reflector shop light.

Unfiltered black light tubes will cut exposure time considerably. Maybe as little a 3–5 minutes. You need to test for accuracy.

The positive can be placed in contact with the coated (dry) screen by either of the above methods.

Step F

Before you remove the sensitized screen from the dark drying area, make sure everything you need to print with is on hand. Set up your exposure lamp as described in Step E. Copy and illustrations (positives) can be fixed in place with cellophane tape. Do not let two layers of tracing paper overlap. A better alternative than taping the positives to the screen fabric is to lay a piece of clear glass, Lucite, or Plexiglas on top of them. One of these must be used if thin lines or lettering less than _ inches tall is to be printed. Whichever you use, once you are sure all positives are in place and flat against the fabric, you are ready to expose the screen.

SPEEDBALL® SCREEN PRINTING SYSTEM
Recommended Exposure Chart

150-Watt Bulb, Clear Incandescent

Screen Size	150W Bulb Height	Exposure time
8" x 10"	12 inches	45 minutes
10" x 14"	12 inches	45 minutes
12" x 18"	15 inches	1 hr. 14 minutes
16" x 20"	17 inches	1 hr. 32 minutes
18" x 20"	17 inches	1 hr. 32 minutes

BBA No. 1 Photoflood (250 Watt)

Screen Size	Lamp Height	Exposure time
8" x 10"	12 inches	10 minutes
10" x 14"	12 inches	10 minutes
12" x 18"	15 inches	16 minutes
16" x 20"	17 inches	20 minutes
18" x 20"	17 inches	20 minutes

PLEASE NOTE: *This chart has been prepared using an aluminum foil pie-plate reflector as indicated in our instructions. More sophisticated light sources, reflectors and equipment can be used. However, as any variable is changed, you will have to adjust the exposure times and distances. This will require experimentation to obtain proper results.*

Step G

Apply a forceful spray of water (body temperature) to both sides of the screen. **DO NOT USE HOT WATER.** Concentrate this spray on the light images on the topside of the screen. After a few minutes, these areas will become "open". Continue spraying until all unwanted emulsion is gone. Perform final spraying with cold water.

Once you have completely washed the screen, let it dry thoroughly in a level flat position.

Hold the dry frame to the light and check for pinholes. These can be covered with Speedball® Screen Filler or pieces of masking tape stuck to the bottom of the screen. If Screen Filler is used, let the screen dry again.

NOTE: Photo Emulsion should not be left in the screen indefinitely unless a permanent stencil is wanted. It should be washed out as soon as the run is completed. See Clean-up Instructions.

MAKING PRINTS

Step A – Preparations
Attach your screen frame to the base by interesting the hinge pins. For off-contact printing tape a penny or nickel to each of the four corners on the underside of the screen. Place a sheet of your printing paper under the screen and position it as it is to be printed. Allow for margins. When you are certain that the paper is in the correct position, lift the screen gently and mark where each edge of the paper should be placed.

Cut three pieces of cardboard about 1" x 2" and use these for registration guides. Place these next to the lines you drew on the base so you can correctly locate each sheet to be printed.

These guides should be fastened securely with tape or rubber cement. Good guides are particularly important if you intend to print more than one color on any print.

Step B – Selecting Inks for Printing on Paper

Water Soluble Inks
Art prints require porous-surface papers of high quality. We recommend 100% rag or heavy paper for best results. For most other printing applications, construction paper, drawing paper, charcoal paper, pastel paper, most board items (except railroad board) and cover stock (especially good for greeting cards) will work well. Ink remains water-soluble after drying.

Avoid slick coated, high gloss papers or vinyl or plastic coated papers.

Stir the ink completely until you achieve a "buttery" or "creamy" consistency. If too thick, add one or two drops of water or Speedball® Water Soluble Transparent Extender Base. Mix thoroughly. Colors may be intermixed. Speedball® Water Soluble Transparent Extender Base may be used to make the colors more transparent.

PERMANENT ACRYLIC INKS

Fine art prints require smooth matte finish, medium or heavy weight papers. To overcome buckling caused by water penetration, after each color run is dry, place a flat weight on stacked prints. This will cause them to dry flat and is especially important for good color registration.

These water-based acrylic inks dry water resistant.

To achieve transparency or economy, Speedball® Extender Base (preferred) or Transparent Base may be added. Never add more than 10–15% Transparent Base. Do not allow ink to dry in screen.

For most other printing applications like posters, greeting cards, book covers, etc., 20# weight and thicker cover stock paper is recommended. Avoid slick coated, high gloss papers or vinyl or plastic coated papers.

Stir the ink completely until you achieve a "buttery" or "creamy" consistency. If too thick, add one or two drops of water or Speedball® Acrylic Extender Base Speedball® Acrylic Transparent Base. Mix thoroughly.

Step B – Alternative
Selecting inks for printing on non-paper surfaces.

WATER SOLUBLE INKS – These can be used on wood or masonite if first coated with an acrylic emulsion base coat such as Speedball® Gesso. To achieve water-resistance, use an acrylic, a spray fixative or a solvent-based varnish as a topcoat.

FABRIC INKS – These can be used on almost any fabric that can be subjected to a hot iron (275°-375°F). Do not use on non-porous fabrics such as nylon.

ACRYLIC INKS – These inks can also be used on wood, masonite and many coated surfaces. Always pre-test before using.

Step C – Printing on Paper
Spoon the ink across the end of the screen nearest to you. With the screen lifted slightly from the base, apply an even blanket of ink onto the print area. Be sure to use an easy, smooth stroke with the squeegee at a slight angle away from you. This is the flood stroke. Drop the screen onto your paper. Lift the squeegee over the ridge of the ink and make the print stroke by pulling towards yourself. Keep the squeegee at a 45° angle with enough pressure to scrape the ink from the screen. Lift the screen from the print, make the flood stroke, set the kick leg, remove the print and put it to dry on your rack or line. Insert new paper, release the kick leg and repeat the process.

Sharp clear prints can be produced provided you maintain an adequate quantity of ink on the screen, and use the flood stroke but sparingly. For more detailed images avoid the flood stroke, and maintain adequate and even pressure on the squeegee during print stroke.

Step D – Clean up
After you have made your prints, remove any remaining ink in the screen. This ink can be saved if you wish. Detach the frame from the base (don't lose the hinge pins). **SEE SECTION ON CLEAN-UP.**

PRINTING WITH FABRIC INKS

For the most part, screen printing on fabric is the same as printing on paper. Use only fabrics that can be subjected to temperatures of at least 275°-375° F. Do not use on non-porous fabrics such as nylon. Pre-test all fabrics. Fabrics with sizing must be washed prior to printing. This will assure proper adhesion of the fabric ink to the fabric.

Five Important Notes:
1. The screen frame is usually detached from the base and used alone. Usually two (2) people should work on the printing process – one holding the screen frame tightly against the fabric, and the other doing the printing.
2. On articles like T-shirts, a piece of foamboard, cardboard or paper must be put inside each garment to act as a barrier.
3. To improve the lubricity (slipperiness) of the ink, you may add the Transparent Base. To slow drying or to prevent screen clogging, add the Retarder Base (1-2 tbs. to 8 oz. of ink).

4. Wash-up of screens and tools must be done immediately after use. If they are allowed to dry on your screen or tools, they are difficult or impossible to remove.
5. After the fabric ink dries on the fabric, set a household iron at the highest dry heat (no steam) that will not scorch the fabric and with a cloth or paper between the iron and printed material, iron on each side for 3–5 minutes. This will make them withstand repeated washings.

IMPORTANT: PRE-TEST SAMPLES PRIOR TO ALL PRODUCTION RUNS. If inadequate wash fastness occurs, the print needs to be heat set longer.

MULTI-COLOR PRINTING

Multi-color signs can be achieved easily by making one screen with the entire message on it. Prepare the screen by any method you prefer. Once the screen is ready, simply block the words you do not want to print with your first color by putting masking tape or paper on the bottom side of the screen fabric.

After you have made your first run of prints, wash the ink from the screen and let it dry. Follow this by blocking out the words you just printed and unblocking words you want to print with your second run of color. After you have made this second run, again wash the screen and let it dry. Continue to repeat this process until you have completed your multi-color print.

Making multi-color prints of detailed artwork requires the making of a screen for each color to be printed. These screens should be prepared before you start to print. Additional Speedball® frames are available for purchase in many retail locations. Please check our website www.speedballart.com for a store near you.

One interesting effect can be made by having a two color print on overlapping areas. These overlaps can add a third (darker) value to the print. Speedball® Transparent or Extender Bases are formulated to enable screen printers to achieve this.

Registration guides are very important when printing with more than one color. Details on registration guides are given in step A on the "Making Prints" section.

An organized work are will make clean up easy. Here are the recommended procedures:

WATER SOLUBLE INKS
Use warm water and a soft brush. These inks will remain water-soluble even after thorough drying.

FABRIC and ACRYLIC INKS
Wash IMMEDIATELY after the last print is pulled.
Use warm water and a soft brush.

Should ink dry in the screen, spray with Windex, or a similar window cleaner. Rub with a lint-free cloth. When ink is removed, was with a mix of warm water and dishwasher detergent using a soft brush. Rinse with warm water.

TROUBLESHOOTING

Drawing Fluid, Screen Filler or Photo Emulsion will not adhere to screen.
Possible scenarios:
1. Screen fabric may be dirty.
2. Screen may have been used with solvent-based materials or the sizing may not have completely washed out of the screen fabric.
   Solution: Scrub with a soft bristle brush and a dishwasher powder/water solution. Rinse well.

Photo Emulsion will not wash out to create a stencil.
Possible scenarios:
1. Artwork not prepared with a visually or photo graphically opaque material.
2. Heat, as well as light, will set the photo emulsion. There must not be any heat build-up (above 150° F) on the stencil during exposure.
3. More than 12 hours (at 70° F) exposed before the sensitized screen was exposed.
4. The sensitized screen was exposed to too much light or heat before exposure to artwork.
5. Overexposure. The instructions list exposure times and heights for a "disposable foil pie tin" reflector. More efficient reflectors will require a higher bulb height and/or less exposure time.
6. Artwork did not make proper contact with screen.
7. Incomplete washout.

Too much Photo Emulsion washed out of screen after exposure.
Possible scenarios:
1. Improper mixing of emulsion and sensitizer.
2. Underexposure.
3. Tracing paper or film not sufficiently transparent.
4. Washout temperature was too high (should be lukewarm, or at body temperature).
5. Screen not dry before coating.
6. Screen not dry before exposure.

Some small details on Photo Emulsion screen did not wash out completely.
Possible scenarios:
1. See relevant "Possible scenarios" under "Photo Emulsion will not wash out to create a stencil".
2. Failure to use a black, non-reflective background under the screen during exposure.

Solution: Using a more intense light source, such as a BBA No. 1 Photoflood, will reduce the require exposure time and resultant light bounce-back. This will improve detail washout.

Inks drying in screen.
Solutions:
1. Use the flood stroke technique given in the instructions.
2. Keep squeegees sharpened.
3. For the Acrylic Screen Inks and Fabric Inks, mix with 5–10% Retarder Base.
4. Use a couple of humidifiers or vaporizers in the printing area.

Textile ink prints not opaque enough.
Solutions:
1. Use a coarser screen fabric.
2. Make multiple passes.
3. Use a rounded squeegee.
4. Use a soft base under the fabric to be printed.
5. Use a hair dryer to flush dry the print immediate after printing and then reprint overtop in exact register.

#4504

Speedball® Fabric Screen Printing Ink
Speedball® Encre pour sérigraphie textile
Speedball® Tinta para impresión sobre tela
- 19 Brilliant Colors
- 19 Couleurs brillantes
- 19 Colores brillantes

- Easy clean-up with water
- Facile à nettoyer avec de l'eau
- Fácil limpieza con agua

- AP Non-Toxic
- AP non toxique
- AP no tóxico

Speedball® Night Glo Phosphorescent Fabric Screen Printing Ink
Encre phosphorescente Speedball® pour sérigraphie textile
Tinta fosoforescente Speedball® para impresión en tela
- 4 Phosphorescent Colors
- 4 Couleurs phosphorescentes
- 4 Colores fosforescentes

Speedball® Fabric Screen Printing Starter Set
Kit de départ de sérigraphie textile Speedball® pour débutants
Set de serigrafía textil Speedball® para principiantes
#4504
- 6 Inks – Blue, Red, Yellow, Black, White, Green
- 6 Encres – Bleu, Rouge, Jaune, Noir, Blanc, Vert
- 6 Tintas – Azul, Rojo, Amarillo, Negro, Blanco, Verde

Speedball® Acrylic Extender Base
Base Acrylique d'Extension Speedball®
Base Acrílica de Extensión Speedball®
#46219 (8 oz./240ml) **#46419** (32 oz./960ml) **#46619** (1 gallon/3.8L)
- Designed to create transparent color
- Dessinée pour créer de la couleur transparente
- Diseñada Para crear el color transparente

Speedball® Fabric & Acrylic Transparent Base
Base transparente pour sérigraphie Speedball®
Base transparente para impresión en serigrafía Speedball®
#4552 (8 oz./240ml) **#4577** (32 oz./960ml) **#4682** (1 gallon/3.8L)
- Designed to create transparent color
- Dessinée pour créer de la couleur transparente
- Diseñada Para crear el color transparente

Speedball® Fabric Screen Printing Ink Colors
Couleurs d'encres Speedball® pour sérigraphie textile
Colores de tintas Speedball® para impresión en tela

Process Cyan/Couleur Cyan/Color Cian
45650 - 8 oz/240ml Jar/Fiole/Bote
45750 - 32 oz/.95L Jar/Fiole/Bote

Black/Noir/Negro
4560 - 8 oz/240ml Jar/Fiole/Bote
4600 - 32 oz/.95L Jar/Fiole/Bote

White/Blanc/Blanco
4563 - 8 oz/240ml Jar/Fiole/Bote
4603 - 32 oz/.95L Jar/Fiole/Bote

Violet/Violet/Violeta
4550 - 8 oz/240ml Jar/Fiole/Bote
4575 - 32 oz/.95L Jar/Fiole/Bote

Brown/Brun/Marrón
4567 - 8 oz/240ml Jar/Fiole/Bote
4607 - 32 oz/.95L Jar/Fiole/Bote

Fluorescent Hot Pink/Rose Foncé Fluorescent/Rosa Fuerte Flourescente
4687 - 8 oz/240ml Jar/Fiole/Bote
4693 - 32 oz/.95L Jar/Fiole/Bote

Fluorescent Magenta/Magenta Fluorescent/Magenta Fluorescente
4692 - 8 oz/240ml Jar/Fiole/Bote
4697 - 32 oz/.95L Jar/Fiole/Bote

Night Glo Textile Green/Vert Textile Night Glo/Verde Night Glo
47522 - 8 oz/240ml Jar/Fiole/Bote

Process Magenta/Magenta/Magenta
45651 - 8 oz/240ml Jar/Fiole/Bote
45751 - 32 oz/.95L Jar/Fiole/Bote

Red/Rouge/Rojo
4561 - 8 oz/240ml Jar/Fiole/Bote
4601 - 32 oz/.95L Jar/Fiole/Bote

Green/Vert/Verde
4564 - 8 oz/240ml Jar/Fiole/Bote
4604 - 32 oz/.95L Jar/Fiole/Bote

Peacock Blue/Bleu Canard/Azul Verdoso
4551 - 8 oz/240ml Jar/Fiole/Bote
4576 - 32 oz/.95L Jar/Fiole/Bote

Orange/Orange/Naranja
4569 - 8 oz/240ml Jar/Fiole/Bote
4609 - 32 oz/.95L Jar/Fiole/Bote

Fluorescent Green/Vert Fluorescent/Verde Fluorescente
4690 - 8 oz/240ml Jar/Fiole/Bote
4695 - 32 oz/.95L Jar/Fiole/Bote

Night Glo Textile Blue/Bleu Textile Night Glo/Azul Night Glo
47520 - 8 oz/240ml Jar/Fiole/Bote

Night Glo Textile Yellow/Jaune Textile Night Glo/Amarillo Night Glo
47521 - 8 oz/240ml Jar/Fiole/Bote

Process Yellow/Juane/Amarillo
45652 - 8 oz/240ml Jar/Fiole/Bote
45752 - 32 oz/.95L Jar/Fiole/Bote

Blue/Bleu/Azul
4562 - 8 oz/240ml Jar/Fiole/Bote
4602 - 32 oz/.95L Jar/Fiole/Bote

Yellow/Juane/Amarillo
4565 - 8 oz/240ml Jar/Fiole/Bote
4605 - 32 oz/.95L Jar/Fiole/Bote

Blue Denim/Denim Bleu/Azul Vaquero
4566 - 8 oz/240ml Jar/Fiole/Bote
4606 - 32 oz/.95L Jar/Fiole/Bote

Burgundy/Bourgogne/Burdeos
4684 - 8 oz/240ml Jar/Fiole/Bote
4686 - 32 oz/.95L Jar/Fiole/Bote

Fluorescent Orange/ Orange Fluorescent/Naranja Flourescente
4691 - 8 oz/240ml Jar/Fiole/Bote
4696 - 32 oz/.95L Jar/Fiole/Bote

Night Glo Textile White/Blanc Textile Night Glo/Blanco Night Glo
47523 - 8 oz/240ml Jar/Fiole/Bote

Speedball® Opaque Fabric Screen Printing Ink
Encre opaque Speedball® pour sérigraphie textile
Tinta opaca Speedball® para Serigrafía en tela
- Ideal for use on dark fabrics, paper or cardboard
- Idéal pour l'usage sur des tissus obscures, papier ou papier bristol
- Ideal para el uso en tejidos oscuros, papel o papel cartulina

Speedball® Fabric & Acrylic Retarder Base
Base retardante textile et acrylique Speedball®
Base retardante para tejidos y acrílocos Speedball®
#4639
- Slows the drying time of the inks
- Ralentit le temps de séchage des encres
- Retrasa el tiempo de secado de las tintas

Speedball® Water Soluble Screen Printing Ink
Encre hydrosoluble Speedball® pour sérigraphie textile
Tinta hydrosoluble Speedball® para Serigrafía en tela
- For use on paper, wood and cardboard
- Pour l'usage sur papier, boiset papier bristol
- Para uso en el papel, madera y papel cartulina

Speedball® Water Soluble Transparent Extender Base
Base hydrosoluble d'extension Speedball®
Base hydrosoluble de extensión Speedball®
#4532 (8 oz/240ml)   #4572 (32 oz/960ml)
- Designed to create transparent color
- Dessinée pour créer la couleur transparente
- Diseñada para crear el color transparente

Speedball® Opaque Fabric Screen Printing Starter Set
Kit de sérigraphie pour des tissues opaques Speedball® pour débutants
Set serigrafía en tejidos opacos Speedball® para principiantes
4590
- 6 Opaque inks – Blue Topaz, Raspberry, Citrine, Black Pearl, Pearly White, Silver
- 6 Encre opaques – Bleu Topaze, Framboise, Citrine, Noir perle, Blanc perle, Argent
- 6 Tinta opacas – Azul Topacio, Frambuesa, Citrino, Negra Perla, Blanco Perla, Plata

Speedball® Opaque Screen Printing Ink Colors
Couleurs d'Encres Opaques Speedball® pour sérigraphie textile
Colores de tintas opacas Speedball® para impresión en tela

Black Pearl/Noir Perle/Negro Perla
4800 - 8 oz/240ml Jar/Fiole/Bote

Pearly White/Blanc Perle/Blanco Perla
4803 - 8 oz/240ml Jar/Fiole/Bote

Amethyst/Améthyste/Amatista
4806 - 8 oz/240ml Jar/Fiole/Bote

Sherbet/Sorbet/Sorbete
4809 - 8 oz/240ml Jar/Fiole/Bote

Raspberry/Framboise/Frambuesa
4801 - 8 oz/240ml Jar/Fiole/Bote

Emerald/Émeraude/Esmeralda
4804 - 8 oz/240ml Jar/Fiole/Bote

Silver/Argent/Plata
4807 - 8 oz/240ml Jar/Fiole/Bote

Blue Topaz/Bleu Topaze/Azul Topacio
4802 - 8 oz/240ml Jar/Fiole/Bote

Citrine/Citrine/Citrino
4805 - 8 oz/240ml Jar/Fiole/Bote

Gold/Or/Oro
4808 - 8 oz/240ml Jar/Fiole/Bote

Speedball® Water Soluble Screen Printing Ink Colors
Couleurs d'Encres hydrosolubles Speedball® pour sérigraphie
Colores de Tintas hydrosolubles Speedball® para Serigrafía

Black/Noir/Negro
4540 - 8 oz/240ml Jar/Fiole/Bote
4580 - 32 oz/.95L Jar/Fiole/Bote

White/Blanc/Blanco
4543 - 8 oz/240ml Jar/Fiole/Bote
4583 - 32 oz/.95L Jar/Fiole/Bote

Brown/Brun/Marrón
4546 - 8 oz/240ml Jar/Fiole/Bote
4586 - 32 oz/.95L Jar/Fiole/Bote

Magenta/Magenta/Magenta
4549 - 8 oz/240ml Jar/Fiole/Bote
4589 - 32 oz/.95L Jar/Fiole/Bote

Red/Rouge/Rojo
4541 - 8 oz/240ml Jar/Fiole/Bote
4581 - 32 oz/.95L Jar/Fiole/Bote

Green/Vert/Verde
4544 - 8 oz/240ml Jar/Fiole/Bote
4584 - 32 oz/.95L Jar/Fiole/Bote

Orange/Orange/Naranja
4547 - 8 oz/240ml Jar/Fiole/Bote
4587 - 32 oz/.95L Jar/Fiole/Bote

Blue/Bleu/Azul
4542 - 8 oz/240ml Jar/Fiole/Bote
4582 - 32 oz/.95L Jar/Fiole/Bote

Yellow/Juane/Amarillo
4545 - 8 oz/240ml Jar/Fiole/Bote
4585 - 32 oz/.95L Jar/Fiole/Bote

Violet/Violet/Violeta
4548 - 8 oz/240ml Jar/Fiole/Bote
4588 - 32 oz/.95L Jar/Fiole/Bote

#4590

#4503

Speedball® Permanent Acrylic Screen Printing Ink
Encre acrylique permanente por sérigraphie Speedball®
Tinta acrílica permanente para serigrafía Speedball®

- For use on paper, wood and cardboard
- Pour l'usage sur papier, bois et papier bristol
- Para el uso en papel, madera y papel cartulina

- 19 Brilliant Colors
- 19 Couleurs brillantes
- 19 Colores brillantes

- Easy clean-up with water
- Facile à nettoyer avec de l'eau
- Fácil limpieza con agua

- Jars have inner seal
- Les fioles ont un joint intérieur
- Los frascos tienen sello interno

- AP Non-Toxic
- AP non toxique
- AP no tóxico

- Non-flammable
- Non Inflammable
- No Inflamable

Speedball® Acrylic Screen Printing Starter Set
Kit de sérigraphie à l'acrylique Speedball® pour débutants
Set de serigrafía sobre acrílico Speedball® para principiantes
#4503

Speedball® Gloss Overprint Varnish
Vernis d'impression brillant Speedball®
Barniz de la impresión brillante Speedball®
#46420 (32 oz./960ml)   **#46620** (1 gallon/3.8L)

- Preserves against scuffing, weathering, and water
- Protège contre les rayures, l'effritement et l'eau
- Protege contra las raspaduras, la acción atmosférica y el agua

- Non-yellowing, acrylic based
- Ne jaunit pas, à base d'acrylique
- No amarillea, a base de acrílico

Speedball® Permanent Acrylic Screen Printing Ink Colors
Couleurs d'encres acryliques permanentes Speedball pour sérigraphie
Colores de tintas acrílicas permanentes Speedball para serigrafía

Process Cyan/Cyan/Cian
46210 - 8 oz/240ml Jar/Fiole/Frasco
46410 - 32 oz/.95L Jar/Fiole/Frasco
46610 - 1 Gallon/3.8L

White/Blanc/Blanco
4620 - 8 oz/240ml Jar/Fiole/Frasco
4640 - 32 oz/.95L Jar/Fiole/Frasco
4660 - 1 Gallon/3.8L

Orange/Orange/Naranja
4624 - 8 oz/240ml Jar/Fiole/Frasco
4644 - 32 oz/.95L Jar/Fiole/Frasco
4664 - 1 Gallon/3.8L

Dark Red/Rouge foncée/Rojo oscuro
4627 - 8 oz/240ml Jar/Fiole/Frasco
4647 - 32 oz/.95L Jar/Fiole/Frasco
4667 - 1 Gallon/3.8L

Violet/Violet/Violeta
4630 - 8 oz/240ml Jar/Fiole/Frasco
4650 - 32 oz/.95L Jar/Fiole/Frasco
4670 - 1 Gallon/3.8L

Peacock Blue/Bleu Canard/Azul Verdoso
4633 - 8 oz/240ml Jar/Fiole/Frasco
4653 - 32 oz/.95L Jar/Fiole/Frasco
4673 - 1 Gallon/3.8L

Black/Noir/Negro
4637 - 8 oz/240ml Jar/Fiole/Frasco
4657 - 32 oz/.95L Jar/Fiole/Frasco
4677 - 1 Gallon/3.8L

Process Magenta/Magenta/Magenta
46211 - 8 oz/240ml Jar/Fiole/Frasco
46411 - 32 oz/.95L Jar/Fiole/Frasco
46611 - 1 Gallon/3.8L

Primrose Yellow/Jaune Onagre/Amarillo Onagra
4621 - 8 oz/240ml Jar/Fiole/Frasco
4641 - 32 oz/.95L Jar/Fiole/Frasco
4661 - 1 Gallon/3.8L

Fire Red/Rouge feu/Rojo fuego
4625 - 8 oz/240ml Jar/Fiole/Frasco
4645 - 32 oz/.95L Jar/Fiole/Frasco
4665 - 1 Gallon/3.8L

Gold/Or/Oro
4628 - 8 oz/240ml Jar/Fiole/Frasco
4648 - 32 oz/.95L Jar/Fiole/Frasco
4668 - 1 Gallon/3.8L

Ultra Blue/Ultra bleu/Ultra azul
4631 - 8 oz/240ml Jar/Fiole/Frasco
4651 - 32 oz/.95L Jar/Fiole/Frasco
4671 - 1 Gallon/3.8L

Emerald Green/Vert Émeraude/Verde Esmeralda
4634 - 8 oz/240ml Jar/Fiole/Frasco
4654 - 32 oz/.95L Jar/Fiole/Frasco
4674 - 1 Gallon/3.8L

Process Yellow/Jaune/Amarillo
46212 - 8 oz/240ml Jar/Fiole/Frasco
46412 - 32 oz/.95L Jar/Fiole/Frasco
46612 - 1 Gallon/3.8L

Medium Yellow/Jaune moyen/Amarillo medio
4623 - 8 oz/240ml Jar/Fiole/Frasco
4643 - 32 oz/.95L Jar/Fiole/Frasco
4663 - 1 Gallon/3.8L

Medium Red/Rouge moyen/Rojo medio
4626 - 8 oz/240ml Jar/Fiole/Frasco
4646 - 32 oz/.95L Jar/Fiole/Frasco
4666 - 1 Gallon/3.8L

Silver/Argent/Plata
4629 - 8 oz/240ml Jar/Fiole/Frasco
4669 - 32 oz/.95L Jar/Fiole/Frasco
4689 - 1 Gallon/3.8L

Dark Blue/Bleu foncé/Azul oscuro
4632 - 8 oz/240ml Jar/Fiole/Frasco
4652 - 32 oz/.95L Jar/Fiole/Frasco
4672 - 1 Gallon/3.8L

Brown/Brun/Marrón
4636 - 8 oz/240ml Jar/Fiole/Frasco
4656 - 32 oz/.95L Jar/Fiole/Frasco
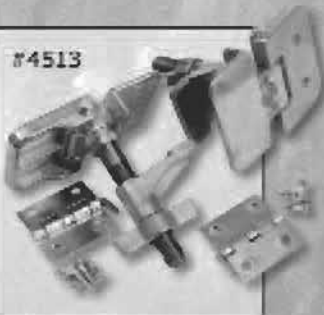4676 - 1 Gallon/3.8L

#4570

#4571

#4530

#4531

#46410

#4516

#4506

#4509

#4505

#4513

#4512

SCREEN PRINTING
Fabric

6 sheets

SCREEN PRINTING
Contemporary Methods And Materials

#45410

Speedball® Drawing Fluid
Fluide de dessin Speedball®
Líquido de dibujo Speedball®
#4531 (8 oz/240ml) **#4571** (32 oz/960ml)
– Apply with brush
– Appliquez avec une brosse
– Apliquése con un cepillo

Speedball® Screen Filler
Remplissage d'écran Speedball®
Relleno de pantalla Speedball®
#4530 (8 oz/240ml) **#4570** (32 oz/960ml)
– Designed to block out areas not intended to be screen printed
– Utilisé pour préserver les zones qu'on ne veut pas imprimer
– Diseñado para bloquear las áreas que no queremos imprimir

Speedball® Screen Frame
Cadre d'écran Speedball®
Tamiz de pantalla Speedball®
#4509 (8" x 10", 203.2mm x 254mm)
#4506 (10" x 14", 254mm x 255.6mm)
#4515 (12" x 16", 304.8mm x 406.4mm)
#4516 (16" x 20", 406.4 x 508mm)

Speedball® Screen Frame Unit with Base
Cadre d'écran Speedball® avec de la base®
Tamiz de pantalla Speedball® con base
#4505

Speedball® Hinge Clamps
Charnières de fixation Speedball®
Bisagras abrazaderas Speedball®
#4513
– Cast aluminum, durable and rust resistant
– Moule en aluminium, durable et antirouille
– Molde en aluminio, duradero y antioxidante

Speedball® Screen Fabric-Multifilament Polyester
Tissu d'écran Speedball® - polyester de multifilament
Tejido de malla Speedball® - poliester de multifilamento

#4512	Package 6 sheets of 12xx sheets
	Fits 10" x 14" frame
	Paquet de six feuilles 12xx. Encastré dans
	un cadre de 254mm x 255.6mm
	Paquete de seis hojas 12xx. Encaja en un
	tamiz de 254mm x 255.6mm
#4514	5 yds. x 52" roll of 12xx
	4.5m x 1320.8mm rouleau de 12xx
	4.5m x 1320.8mm pieza de 12xx
#4698	5 yds. x 42" roll of 8xx
	4.5m x 1066.8mm rouleau de 8xx
	4.5m x 1066.8mm pieza de 8xx
#4699	5 yds. x 42" roll of 12xx
	4.5m x 1066.8mm rouleau de 12xx
	4.5m x 1066.8mm pieza de 12xx
#4700	5 yds. x 42" roll of 14xx
	4.5m x 1066.8mm rouleau de 14xx
	4.5m x 1066.8mm pieza de 14xx

Speedball® Screen Printing Textbook
Livret de sérigraphie Speedball®
Cuadernillo de serigrafía Speedball®
#4511

Speedball® Screen Printing Video
Vidéo de sérigraphie Speedball®
Vídeo de sérigraphie Speedball®
#45410

13

#4579

#4559

#4537

#4481

#4480

#4492

#4534

#4508

DIAZO Photo Emulsion Kit
Kit de photo-émulsion DIAZO
Kit de fotoemulsión DIAZO
#4559

DIAZO Photo Emulsion
Foto-émulsion DIAZO
Fotoemulsión DIAZO
#4579 (26.4 oz/792ml bottle)

DIAZO Sensitizer
Sensibilisateur DIAZO
Sensibilizador DIAZO
#4578 (2 oz/60ml bottle) #4557 (8 oz/240ml bottle)

DIAZO Photo Emulsion Remover
Dissolvant por émulsion photo DIAZO
Eliminador de fotoemulsión DIAZO
#4557 (8 oz/240ml bottle)

Speedball® Graphic/Craft Squeegees
Grafique Speedball®/Balai-éponge
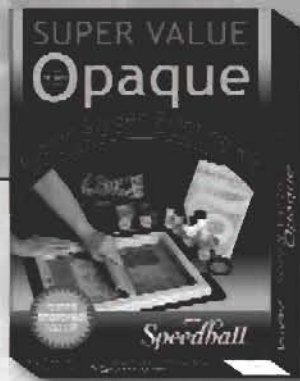### Gráfico Speedball®/Enjugador para manualidades
- For use on paper, wood and cardboard
- Pour l'usage sur papier, bois et papier bristol
- Para el uso en papel, madera y papel cartulina

- Urethane blades are firm, impervious to acids, turpentine and thinners. Suited for high usage applications
- Les lames d'uréthane sont fermes et imperméables aux acides, à la térébenthine et au diluants. Idonées pour des applications d' un élevée utilisation.
- Las láminas de uretano son firmes e impermeables a los ácidos, al aguarrás y a los disolventes. Idónees en aplicaciones de uso frecuente.

- Urethane Blade
    - **# 4480** 6" 75 Durometer (15.24cm)
    - **# 4481** 8" 75 Durometer (20.32cm)
    - **# 4482** 10" 75 Durometer (25.4cm)
    - **# 4483** 12" 75 Durometer (30.48cm)
    - **# 4484** 14" 75 Durometer (35.56cm)

- Neoprene blades are suited for shorter print runs.
- Les lames de néoprène sont idonées pour des tirages plus courtes
- Las láminas de neopreno son idóneas para tiradas más cortas
- Neoprene Blade
    - **# 4535** 8" 70 Durometer (20.32cm)
    - **# 4536** 10" 70 Durometer (25.4cm)
    - **# 4537** 12" 70 Durometer (30.48cm)
    - **# 4538** 14" 70 Durometer (35.56cm)
    - **# 4539** 8" 65 Durometer (20.32cm)
    - **# 4508** 9" Craft Red Plastic Handle - 70 Durometer (22.86cm) - Neoprene blade

Speedball® Graphic/Craft Squeegees
Tissu Speedball®/Balai-éponge
Tejido Speedball®/Enjugadores para manualidades
- For use with screen printing on fabric
- Pour l'usage en sérographie textile
- Para el uso en serografía sobre tela

- Non-marking blade
- Lame sans marquage
- Lámina sin marcación

- Rounded edge pushes more ink through the screen and reduces binding when printing on fabric
- Un bord arrondi pousse plus d'encre à travers l'écran et réduit l'attachement quand on imprime sur tissu
- Un borde redondeado empuja màs tinta a través de la redecilla y reduce el encolamiento a la hora de imprimir sobre tejido

- Non-marking Blade
    - **# 4490** 6" 50 Durometer (15.24cm)
    - **# 4491** 8" 50 Durometer (20.32cm)
    - **# 4492** 10" 50 Durometer (25.4cm)
    - **# 4493** 12" 50 Durometer (30.48cm)
    - **# 4494** 14" 50 Durometer (35.56cm)

- Neoprene
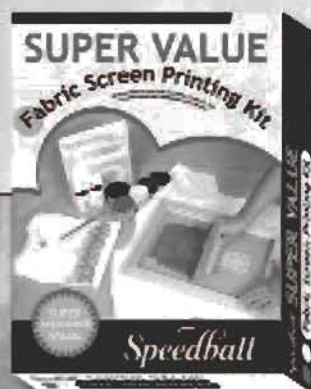   - **# 4534** 9" Fabric/Craft Beige Plastic Handle (22.86cm) - 65 Durometer

#4519

#4520

#4521

#4522

#4523

#4524

#4526

Super Value Opaque Fabric Screen Printing Kit
Kit de bonne qualité pour sérigraphie sur tissus
Kit de buena calidad para sergrafía sobre tela
#4519
- Includes easy to follow instruction booklet.
- Inclue un livret d'instructions facile a comprende
- Incluye un cuadernillo de instrucciones fácil de entender

- Ideal for use on dark colors.
- Idéal pour l'usage sur des couleurs foncées
- Ideal para el uso en colores oscuros

Glo 'N' Dark Fabric Screen Printing Kit
Set Glo 'N' Dark pour sérigraphie textile
Set Glo 'N' Dark para impresión sobre tela
#4520
- Includes four water soluble phosphorescent inks that glow in the dark
- Inclut quatre encres phosphorescentes hydrosolubles qui brillent dans l'obscurité
- Incluye cuatro tintas fosforescentes hidrosolubles que brillan en la obscuridad

The Original Screen Printing Kit
Le Kit original pour sérigraphie
El Kit original para serigrafía
#4521
- Includes easy to follow instruction booklet
- Inclue un livret d'instructions facile a comprende
- Incluye un cuadernillo de instrucciones fácil de entender

- For use on paper, wood and cardboard
- Pour l'usage sur papier, bois et papier bristol
- Para el uso en papel, madera y papel cartulina

Deluxe Fabric Screen Printing Kit
Kit luxueux pour sérigraphie
Kit de de lujo para serigrafía
#4522
- For use on paper, wood and cardboard
- Pour l'usage sur papier, bois et papier bristol
- Para el uso en papel, madera y papel cartulina

- Includes easy to follow instruction booklet and video
- Inclue un livret d'instructions facile a comprende et video
- Incluye un cuadernillo de instrucciones fácil de entender y video

Ultimate Screen Printing Kit
Kit final pour sérigraphie
Kit final de serigrafía
#4523
- Designed for the true screen printing enthusiast!
- Prévu pour le vrai enthousiaste de la sérigraphie!
- ¡Diseñado para el verdadero entusista de la sergrafía!

Fabric Screen Printing Tool Kit
Kit à outils de sérigraphie textile
Kit de herramientas para impresión sobre tela
#4524
- Includes easy to follow instruction booklet
- Inclue un livret d'instructions facile a comprende
- Incluye un cuadernillo de instrucciones fácil de entender

#4526
Super Value Fabric Screen Printing Kit
Kit de bonne qualité pour sérigraphie sur tisus
Kit de buena calidad para serigrafía sobre tela
- A terrific basic introduction to fabric screen printing!
- Une introduction de base merveilleuse pour sérigraphie sur tissues
- Una introducción básica fabulosa a la serigrafía sobre tela

- Includes easy to follow instruction booklet
- Inclue un livret d'instructions facile a comprende
- Incluye un cuadernillo de instrucciones fácil de entender

15

Stencils • Découpages • Plantillas de papel

Happy Holidays

HAPPY BIRTHDAY

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