

## Tricks for the Screen Printer

A technical information article by Douglas Grigar

This article contains three specific production actions and one set of helpful tips.

### First, the tape trick, a simple registration method to cut time and guess work.

This system is not a replacement for a pin registration system but can save time. Many aspects can be used with a pin registration system.

1. Have the screens prepared and ready for the print press registration process.

2. Move the micro registration to neutral or zero on the press. This step is important because without enough movement latitude, screens may have to be moved resulting in lost time.

3. Align the screen registration marks to your standard pallet markings. (Fig. 1)

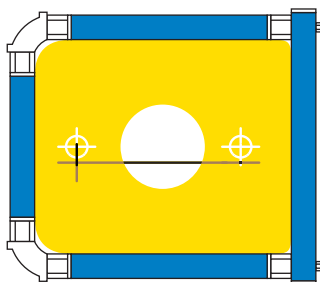


Fig. 1

4. Choose a screen color that touches or is part of as many other colors in the job. This could be an outline or white underlay.

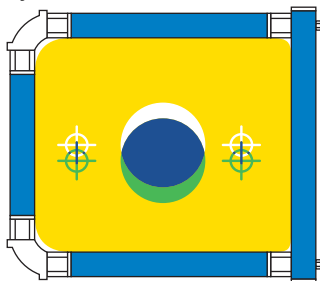


Fig. 2

5. Apply pallet adhesive and print the chosen color on a rag with the highest

available print contrast. Contrast must be sufficient to view print past each coated screen. (Example: if the print is black use a white rag, if white print a black rag - Fig. 2).

6. Cover the print with clear packing tape. Overlap the edges to prevent ink transfer to the substrate. (Fig. 3) The print should be visible as if there was nothing covering the image. Do not flash the image. Flashing could cause shrinkage.

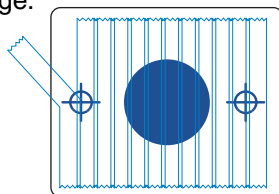


Fig. 3

7. Looking past the mesh/emulsion, align the images from the other screens with the press micro registration. (Fig. 2) Fill the screens with ink.

8. Start the small micro adjustments needed. After each print the ink can be wiped from the clear packing tape with a rag or paper towel. This print and wiping procedure can be repeated as needed.

9. Lock the micro registration when the job is ready for print.

Often the act of lining the print with standard markings on your platen will leave the job ready to print. A printers registration procedure system Saves time, rags, and forces standardization of art, screens and production.

### Second, the best way to produce a wooden handled squeegee to prevent blade warping.

Needed items:

1. Wood squeegee handle. Order the handle and squeegee blade. Request the handle and blade without the holes drilled. (No need for bolts. Fig. 4)

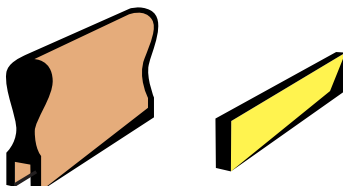


Fig. 4

2. Squeegee blade of durometer needed (most often 70 d. squeegees are best for all plastisol applications)

3. Tube of Silicone II (available at most hardware stores)



Fig. 5

In the channel cut for the blade, apply a bead of glue to the sides and bottom of the channel. Spread evenly with a card or cardboard. (Fig. 5)

Push the blade into the channel. Some glue will squeeze out, wipe this with a card if needed.

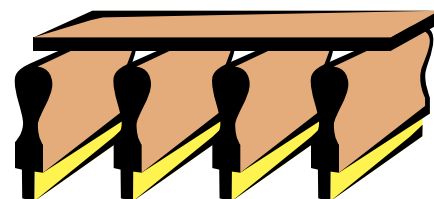


Fig. 6

Place the complete handle blade down, on a smooth table and apply pressure. A weight or clamp on top will assure a leak proof seal. (Fig. 6)

A flat surface will force the blade to stay in the handle as the glue is cured, while keeping the blade straight and level.

In twelve hours the glue will cure and the squeegee will be ready for printing.

The glue seal will keep cleaning chemicals from getting into the space under the blade, preventing warpage.

The glue only works with a new handle. Any plastisol or cleaning chemicals on the handle will resist the glue.

Squeegees will last longer and resist warping when glued. After 12 months of use and sharpening, the squeegees should be replaced.

### Third, Emergency exposure by sunlight.

Solar exposure is not consistent enough to use for regular production without a solar light integrator. A simple emergency sunlight exposure box can be constructed with the following items:

1. cardboard box
2. a sheet of glass the same size as the screen frame
3. a length of black cloth
4. a piece of foam the same size as the inside of the frame
5. plywood the same size as the foam insert

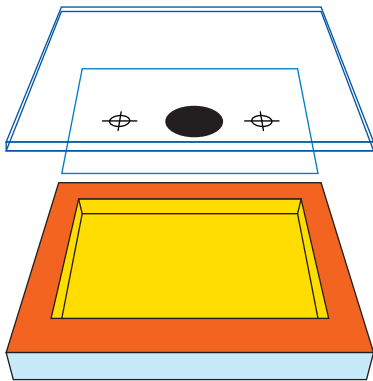


Fig. 7

Assemble the box by making a front flap to control solar exposure. The box will need to be larger than the frame.

Position the art on the screen face and tape securely.

Place the black cloth into the squeegee side of the frame and then push the foam into the screen.

Place the plywood onto the back of the foam and the glass on the face of the frame. (Fig.7) Compress the foam and tape the glass and plywood to the frame.

Place the screen into the box, glass facing the flap opening. (Fig. 8) When outside in the sun, point the box into the sun and open the flap for exposure. You will need to figure your exposure time each time you do this. Weather conditions and seasonal changes produce variables in the ultraviolet light.

Develop the screen as normal.

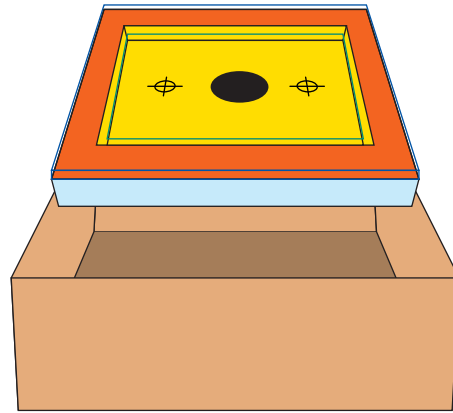


Fig. 5

### Fourth, a set of helpful emergency tips.

Beware, the listed workarounds (marked with an \*) are for emergency only and are not for use as standard production procedures.

#### 1. Scorching

Hydrogen Peroxide or White Vinegar in a garden sprayer will help remove a scorch.

Test the reaction of the substrate to both hydrogen peroxide and white vinegar. The chemicals are mild but some shirts may react. Scorching is most common with white garments and the mild acids can often remove a scorch. Colored garments are often damaged beyond repair when scorched.

#### 2. Pinhole block out

Old emulsion used to be the common block out and works well. To ensure a good ink block expose the emulsion in the sun or with an exposure unit when dry.

Adhesive tape will work in a pinch. Just flatten the tape to the emulsion with pressure. Often longer print cycles can cause seepage from the tape edges.

When available paper white out fluid (\*) or fingernail polish (\*) will work but can be hard to spray out.

#### 3. Patching screens

If you glue your own screens and use urethane glue, it will make a long

lasting patch. Card glue around the hole and place a piece scrap of mesh over the glue. Push additional glue into the mesh patch and smooth on both sides. GE brand silicone II glue can be used the same way.

#### 4. Reclaiming screens (\*)

Years ago it was common to use bleach and other dangerous chemicals to reclaim screens. Bleach will degrade the emulsion stencil but when forced to use this in an emergency bleach, will work on most emulsions. Bleach when left to dry on the screen will lock in the emulsion stencil.

#### 5. Toner darkener

White Rain brand unscented hair spray, artist spray fixative (without ultraviolet block) along with clear spray paint will darken toner.

If the positive is one color you can hold it under a flash or drier panels. Limit exposure to high heat as it can cause vellum and film to shrink and distort.

#### 6. Press wash substitutes (\*)

Mineral spirits will thin the ink but too much will ruin the ink. Acetone works well but is dangerous to users and is highly flammable.

Replacements for an on press wash can cause the emulsion to harden or lock into the fabric becoming impossible to reclaim.

#### 7. Degreasing screens

A janitorial product sold under the brand name Simple Green works well as a degreaser.

Stay consistent and you will be able to predict your results with greater accuracy. Your goal should be consistency, predictability, and repeatability.

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