Printex
Your Printing Partners

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Printex Monthly News Bulletin

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Tips of the MONTH

Never argue with stupid people, they will drag you down to their level and then beat you with experience.

~ Mark Twain

Better to light a candle than to curse the darkness.

~ Chinese Proverb

The weak can never forgive. Forgiveness is the attribute of the strong. *~ Mahatma Gandhi*

Top Ten 10 Worst Screen Printing Mistakes And How to Fix Them

1. Art problems

A. Start with good artwork, properly prepared. Don't use a low resolution jpeg and think you will get a good screen print out of it. The art should be a minimum of 300 ppi at print size.
B. Make sure you can print the design correctly and match it with the correct screen mesh for the artwork.
C. If you have a customer, make sure they sign an approval of the final design. You'd hate to reprint a design at your own expense because a word was misspelled!

Here's a nice design made to look distressed. (a new design we are testing) Because of the small details we burned this art on 156 mesh screens to print on t-shirts.

2. Screen Exposure problems

A detailed list of screen problems here:

This is a run down of common problems with coating, burning, washing out and reclaiming silk screens for printing.

Problem 1. The emulsion does not go onto the screen smoothly and evenly.

A. The mesh may have loosened up and have uneven tension. This is especially a problem with wood frame screens once they start to get old.
B. Your emulsion may be old or have dried bits that have fallen into it. Keep the emulsion container clean and try to refrigerate it if you are not going to use it up pretty quickly. Check the shelf life of the emulsion you are using.
C. Have you remembered to remove the rubber edge protector on your scoop coater? Don't laugh! You'd be surprised how many people make this mistake.

Problem 2. Emulsion is washing out all over the screen.

A. The screen was not exposed for a long enough time. You may have to experiment to get the right exposure time for your equipment and screen.
B. The emulsion was applied too thickly on the screen and not exposed long enough to overcome the thickness.
C. The emulsion may have been applied unevenly. The thicker patches may wash out and the thinner areas may be ok. If the emulsion is applied unevenly the thicker areas take longer to expose than the thinner areas, so you won't get a good exposure on the screen.
D. The lights in your exposure unit may be getting old and losing their potency.
E. The emulsion was not cured. Make sure you allow enough time for the emulsion to dry completely and cure in the screen.
F. Too much water pressure can cause the emulsion to wash out and you should only use cold or lukewarm water.

Problem 3. It's hard to wash out the image on a screen you just burned.

A. The emulsion on the screen could be old. When a screen has been coated and sits around too long, the emulsion gets harder to wash out.

B. The screen may have been exposed to some UV light. If there's been too much light exposure to the screen the image area could be partially exposed and hard to wash out or may wash out unevenly.
C. Your image on the transparency may not be solid black. If the transparency lets light through the image area can become slightly exposed. It's possible to double your transparencies, just be sure to line both copies up carefully.

Problem 4. Losing fine detail when you burn screens.

A. The transparency may not be making good contact with the screen. Make sure you place the transparency with the print side next to the screen and weight it well enough to make good contact. A vacuum exposure unit is best, but if you don't have one of these you have to be more careful.
B. The screen is over-exposed. If the exposure is too long, the fine detail will not wash out and will be lost.
C. The light you are using to expose the screen is not angled correctly. The light source needs to be as straight on as possible, in other words, 90 degrees to the screen.
D. The light source may be too weak. If you are using a weak light source and a long exposure there is more risk of ambient light or light scattering contaminating the exposure.

Problem 5. Pinholes in the screen.

A. The glass over the lights may be dirty or have dust on it. Same with the transparency. Be sure to clean the glass before you burn a screen and the transparency before you tape it onto the screen.
B. Dust or dirt could have blown onto the screen while the emulsion was wet.
C. The emulsion may not have been completely cured.
D. If you do get pinholes and they aren't too big, you can either cover them with tape or you can use a screen touchup pen or fill them in with a little more emulsion and let it dry and expose it to UV light to harden it.

Problem 6. The emulsion breaks down while you are screen printing.

A. The emulsion may not have been exposed long enough. We expose the finished screens to UV light after they are burned and washed out and have dried. Either with sun light or placing the screen back onto the light unit.
B. The emulsion is applied too thinly on the screen. The emulsion should be thin and even, but coated at least once on each side with a good scoop coater.
C. The emulsion may not have been properly cured. We usually allow a minimum of 24 hours for a screen to dry.
D. Wrong type of ink for the emulsion you are using. We use dual cure emulsion that works with both water-based and plastisol inks, but choose your emulsion carefully and check to make sure it works with the ink you intend to use.
E. Too much squeegee pressure or screening too many prints can cause the squeegee to wear down the emulsion. Be sure to use the correct emulsion for the type of ink you are working with and coat the screen an extra time on the inside of the screen where the squeegee will make contact if you will be screening a large number of impressions.

Problem 7. The screen is hard to reclaim.

A. The emulsion on the screen may be old. The longer the emulsion sits on your screen, the harder it is to reclaim.
B. The reclaiming solution dried in the screen. Once the reclaiming solution dries on the screen, it becomes permanent and ruins the screen. Always be careful to wet the screen before you apply the reclaimer, keep it wet and work the reclaimer around on the screen with a brush or scrubbie.
C. The emulsion may be uneven. If the emulsion is thick in spots, like around the edges, it may be hard to get all of the emulsion out. Though if it's only on the edges, it may not matter.
D. You may not be using enough water pressure. Try using a pressure washer, a special hose like the one Victory Factory sells or even try a coin-op DIY car wash.
E. Ink may have dried in the screen. If the ink was not washed out thoroughly it may have dried in and blocked parts of the mesh. You can try a haze remover like Enviro Haze. But if the ink has really dried in there, the screen may be ruined.

Here is a handy chart from Speedball that I found. It may help with estimating exposure times if you are using light bulbs.

SPEEDBALL SCREENPRINTING SYSTEM RECOMMENDED EXPOSURE CHART

150 Watt Bulb Screen Size	150 Watt Bulb Height	Exposure Time
8x10	12 inches	45 min.
10x14	12 inches	45 min.
16x20	17 inches	1 hr 32 min
18x20	17 inches	1 hr 32 min
BBA No. 1 Photoflood (250 Watt)	**Lamp Height**	**Exposure Time**
8x10	12 inches	10 min.
10x14	12 inches	10 min.
12x18	15 inches	16 min.
16x20	17 inches	20 min.
18x20	17 inches	20 min.

3. Bad Registration

A. Screens can become loose in the bracket on the press if not tightened enough.
B. The platen might be moving if the screw is not tightened enough. Turn it as tight as you can being careful not to strip it.
C. The shirt might be moving if you don't have enough adhesive on the platen.

4. Screen break down

A. If the screen was under exposed, the emulsion can loosen and come off. We always "post-expose" the screen. Which means we either place it in the sun after it's been washed out and dried or we expose it again in the exposure unit to set the emulsion.
B. The squeegee can wear through the emulsion on a long print run or on a screen that has been used a lot. If the worn spots are outside of the design area you can clean the screen, spread a thin coat of emulsion over the worn areas and expose it to repair the bare spots.

5. Bad ink curing, ink under cured or over cured

A. Check the curing temperature with a temperature gun. And know what temperature the ink is supposed to cure at, of course. I usually print out a sheet of instructions that go with the ink and stick it to the lid of the ink container.

My instructions unfolded. They are stuck to the lid with double-sided tape.

6. Incorrect squeegee angle

A. Try for a consistent 45 degree angle when applying ink to the screen. Ink goes on pretty smooth at this angle. At an angle of 60-degrees or more, the ink may not get through the mesh correctly and evenly. An angle of 30-degrees or less can make the ink print too heavily onto the fabric.
B. You may need to experiment with the squeegee angle and practice to get it right, see what works for you and keep it consistent. You can also experiment with a "push" print stroke as opposed to the usual "pull" print stroke. There are cases when a push stroke can be useful. But always do one or the other, don't switch between strokes.

Freddy usually screens a bit closer to a 60 degree angle, but that's what seems to work for him.

7. Ink spots or smudges on garment or product

A. Keep the work area and your hands clean.
B. Check the screen carefully for pinholes and fill them with a screen touch-up pen or cover them with a piece of tape.
C. Wash out small spots with a wet shop towel or a spot cleaning gun. If you can't clean it, keep the shirt and use it for test prints.

8. Design placed incorrectly

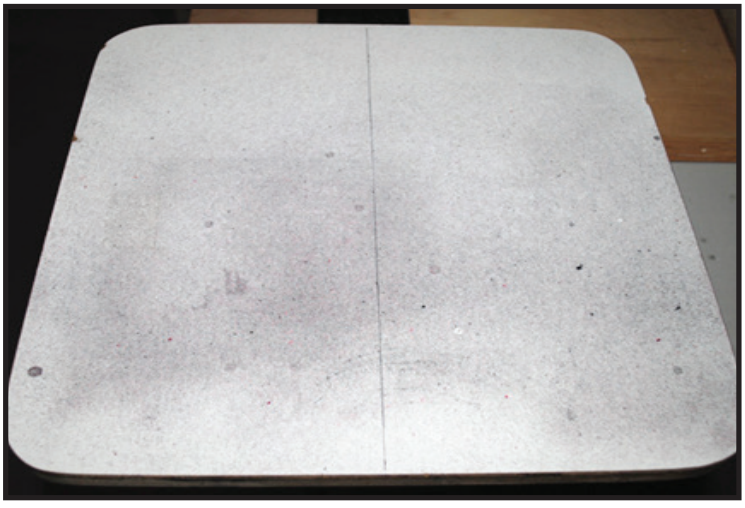
A. Line up you screen carefully. We usually use a t-square to make sure the design is straight.
B. Not all shirts or other garments are sewn correctly or consistently. So you may not be able to use the collar or center crease to position a shirt. The most reliable way I've found to center a shirt is this:

How to Center a Shirt for Silk Screening

Some shirts that you will buy come with a center crease and many people use that center line to line up the shirt. I do too, but being a careful, ok, perhaps paranoid type I don't trust that crease. I know that the crease can be off center or the shirt can be sewn crooked and it's best to double check your placement so that you try your best to avoid a misprinted shirt. Also, not all shirts come with that center crease. Most of the recycled and higher quality shirts we buy don't have one. A lot of the shirts we buy that don't have a center crease have side seams, however.

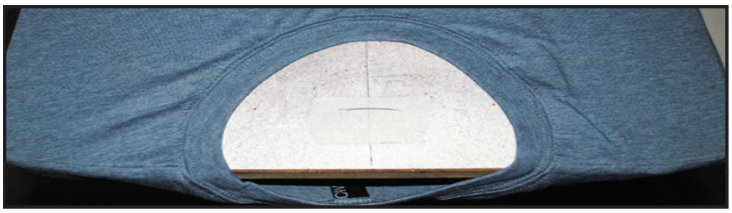
So, here's how I line up a shirt on the platen.

I draw a carefully measured center line down the center of the platen. This is always good to have as a visual measure.

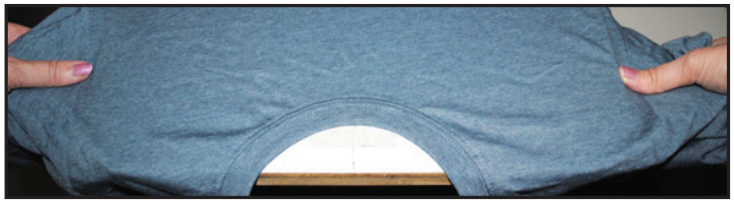


We will decide where to place the design on the shirt and figure out where the design on the screen will fall on the platen and I put a piece of masking tape on the platen and draw a mark about where the collar should fall to make the design print correctly on the shirt.

I open up a shirt from the bottom and slide it onto the platen all the way to the shoulder seams, making sure the shoulder seams are even on the platen edge.

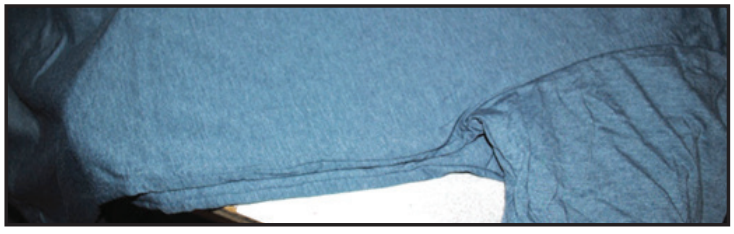


I pull the shirt back carefully, keeping it straight until the collar hits the mark.
Then I use my thumbs to measure the distance from the edge of the platen to the arm hole seams and check to make sure they are the same distance on each side.

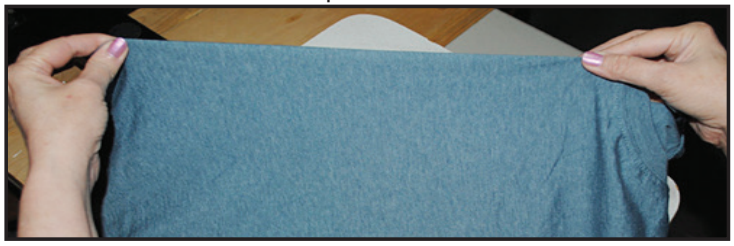


Then I slide my hands under the platen until my fingers are touching the side seams (if the shirt has side seams) and measure if the distance is even. If my fingers are touching the side seams and the platen is falling at the same place on each hand, the shirt should be pretty centered.

When the shirt has no side seams and no center crease, it's a little harder. For the smaller sizes I use the same method as above and just look at the arm hole seams to see that the shirt is centered. For the larger sizes I fold the shirt in half lengthways and create a center line that looks right to me.



I pick up the shirt by the center line and get Freddy to help me slide it onto the platen and I place the center that I have pinched onto the center line drawn on the platen.



That's how I place the shirts. Other people have other methods and you should check out everything you can and decide what works for you. Let me know if you find a better way. I'm always hoping to learn something new!

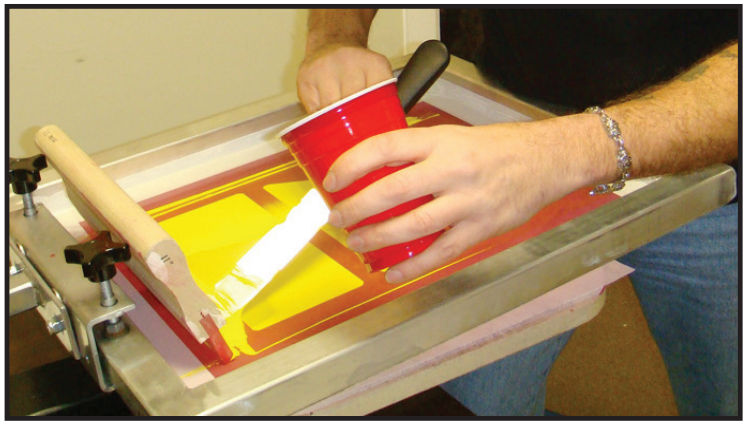
9. Too much ink is getting printed onto the shirt

A. You may be using too much pressure. Don't press down too hard on the squeegee and use even pressure all the way across the print.
B. You may have gotten too much ink into the mesh on the back flood. Be careful as you back flood and don't press down too hard or go over it too many times. If your ink does get too heavy, pull a few prints on test sheets without back flooding to clear out the screen.
C. The ink may be too thinned out
D. You may have an old squeegee with edges that are rounded and need to be sharpened.

10. Too little ink is getting printed onto the shirt

A. Use a coarser mesh.
B. Make more than one squeegee pass to print. We sometimes do as many as 3, but that is usually the most we need.
C. The screen may be getting clogged. We will rub the underside of the screen with a wet shop towel and then screen a test print or two to try to clear it out. We print on test print squares or misprinted t-shirts and use blank newsprint when test printing for posters and art prints. (Note: We have been told that spraying water mixed with a little bit of dish soap on the underside of the screen before you put any ink on it helps when you print. We mean to try this next time we print.)
D. Try printing on a soft base. We sometimes use a platen covered in neoprene fabric. Especially when we want to print over collars or seams (more on this topic later).

Here's Freddy adding more ink to a screen. You can see that there wasn't enough ink to back flood properly and it's spotty behind the cake spreader he uses for the ink.



Mistakes will happen, but my best general advice is to work carefully to head off problems before they happen

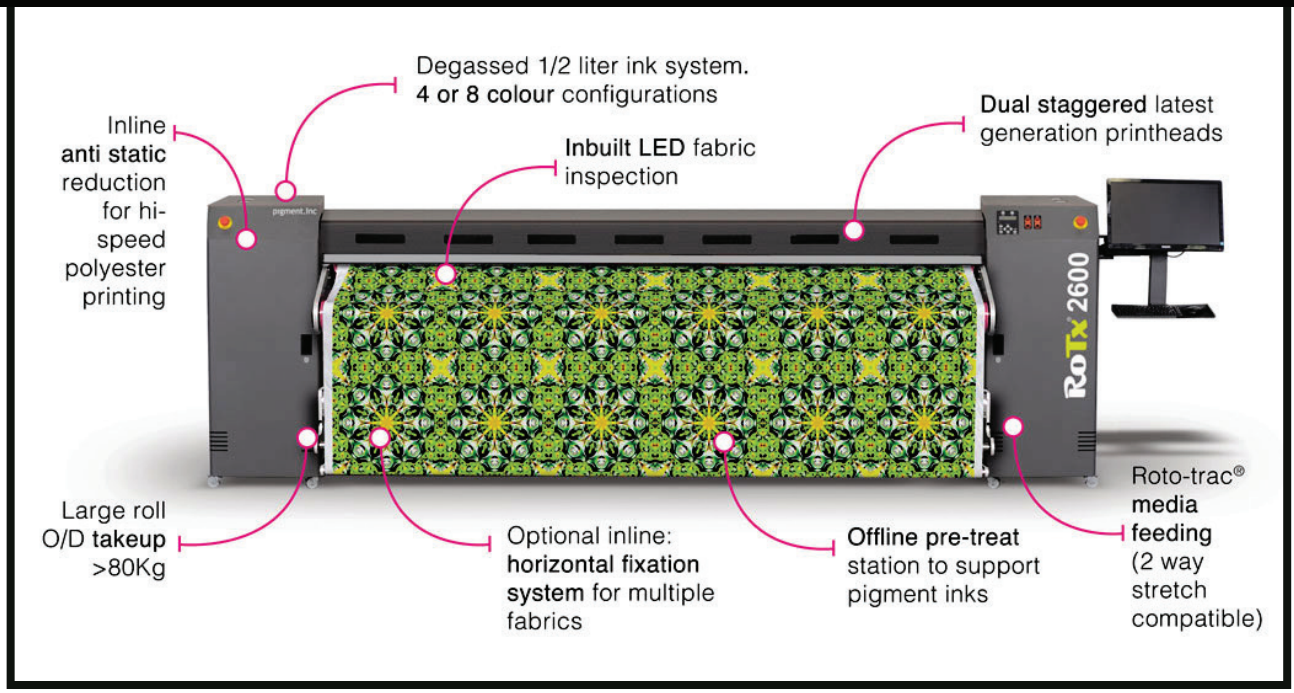
News from Printex

DTG DIGITAL

has launched the Continuous Direct to Fabric Printing Machine with Pigment, Reactive & Sublimation Printing Options. Find below the pics for your kind reference. For further details contact us.

RoTx 1.9 (1900mm print width)

RoTx 2.6 (2600mm print width)



By the Grace of Allah Almighty, Printex has inaugurated her Office in Karachi. Address is as below:

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