SPTF

Screen Printing
Technical Foundation

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Troubleshooting Guide

Textile Registration

Multicolor image difficult to register

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Pallets loose	Tighten pallet holding mechanism securely.
Screen tension varies between multicolor screens	Use screens similar in tension for multicolor work. Use frames similar in size.
Screens not clamped securely	Check clamps to determine if tightening, repairing or replacing is necessary.
Off-contact distances vary	Level pallets to same height in relation to one another. Adjust off-contact to be consistent color to color. Check pallets for warping.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum. Reduce off-contact distance if possible.
Screen tension uneven	Ensure screens have uniform tension. Check for mesh rips/damage and replace as necessary.
Screen frames warped or unstable	Replace warped or damaged frames. Remake screens with flat stable frames. Use metal or retensionable frames for best results.
Pallet arm parts worn impacting press registration	Reset, repair, or replace the registration locking system, e.g. roller bearings or plastic screws.
Garment shifting from insufficient or overheated adhesive	Reapply adhesive as needed. Use adhesive designed to withstand heat. Monitor pallet temperature and take measures to cool pallets. Minimize flash time.
Films not registered correctly	Remake films to register properly.

Registration jumps unpredictably throughout run

Possible Causes	Possible Solution
Pallets loose	Tighten pallet holding mechanism securely.
Off-contact distances vary	Level pallets to same height in relation to one another. Adjust off-contact to be consistent color to color. Check pallets for warping.
Pallet locators have build-up of foreign materials	Clean pallet locators of adhesive, dirt, grease and lint.
Pallet arm parts worn impacting press registration	Reset, repair, or replace the registration locking system, e.g. roller bearings or plastic screws.
Ink buildup on bottom of screens excessive	Use ink designed for wet-on-wet printing. Minimize print strokes. Use sharper squeegee. Use faster squeegee stroke. Change print order. Avoid fluorescent inks. Print with off-contact. Use a finer mesh. Use screens with higher tension.
Thick garment compressing	Use minimal squeegee pressure. Use consistent squeegee pressure and angle for all colors.
Garment shifting from insufficient or overheated adhesive	Reapply adhesive as needed. Use adhesive designed to withstand heat. Monitor pallet temperature and take measures to cool pallets. Minimize flash time.
Drive shaft sprocket loose on automatic press	Inspect sprockets or drive belts. Tighten all set screws and spot weld sprocket to main shaft.

Image registered on some pallets but not on others

Possible Causes	Possible Solution
Pallets loose	Tighten pallet holding mechanism securely.
Off-contact distances vary	Level pallets to same height in relation to one another. Adjust off-contact to be consistent color to color. Check pallets for warping.
Pallet locators have build-up of foreign materials	Clean pallet locators of adhesive, dirt, grease and lint.
Pallet arm parts worn impacting press registration	Reset, repair, or replace the registration locking system, e.g. roller bearings or plastic screws.
Pallet arms bolted out of alignment during press assembly	Re-align printing press armatures.

Image registered on one end of image but not on the opposite end

Possible Causes	Possible Solution
Screen tension insufficient	Use screens with higher tension.
Screen tension uneven	Ensure screens have uniform tension. Check for mesh rips/damage and replace as necessary.
Off-contact distances vary	Level pallets to same height in relation to one another. Adjust off-contact to be consistent color to color. Ensure off-contact is uniform front to back on screens. Check pallets for warping.
Off-contact excessive	Reduce off-contact distance.
Squeegee pressure excessive	Reduce squeegee pressure to a minimum. Reduce off-contact distance if possible.
Exposure vacuum pressure too high	Repair any tears or holes in vacuum blanket. Follow manufacturer recommendations for vacuum pressure setting.

Image out of register in one corner

Possible Causes	Possible Solution
Screen tension uneven	Ensure screens have uniform tension. Check for mesh rips/damage and replace as necessary.
Screen frames warped or unstable	Replace warped or damaged frames. Remake screens with flat stable frames. Use metal or retensionable frames for best results.
Off-contact distances vary	Level pallets to same height in relation to one another. Adjust off-contact to be consistent color to color. Ensure off-contact is uniform front to back on screens. Check pallets for warping.
Squeegee pressure uneven or excessive	Reduce squeegee pressure to a minimum. Use consistent squeegee pressure throughout stroke.
Squeegee warped or uneven	Use straight and even squeegee blades.