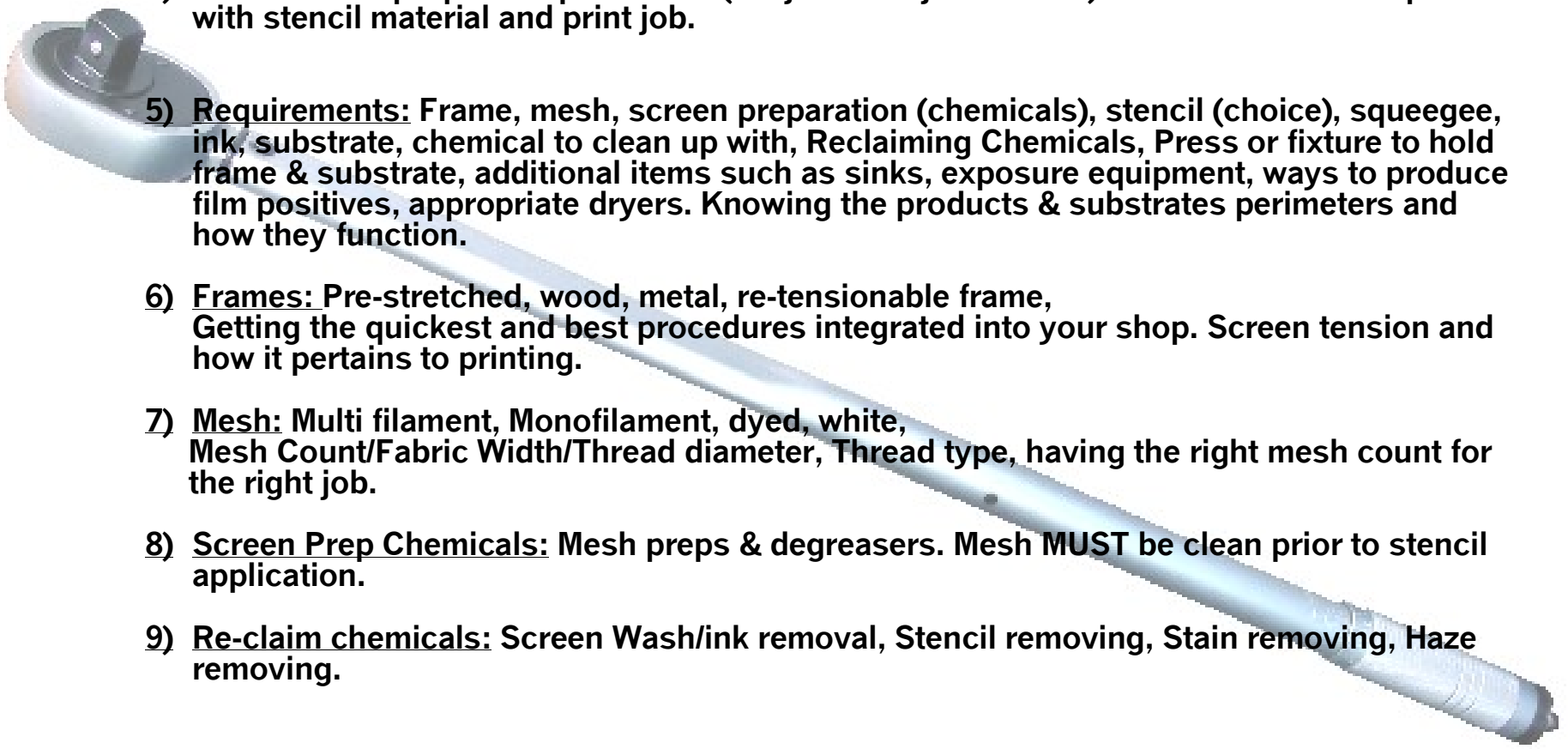
MR. REPAIR "SCREENPRINTING 101"

1) **What is Screen-Printing?** It is basically ink squeegeed through a meshed frame onto a particular substrate.

2) **Methods:** Manually / Semi automatic / fully automatic.

3) **Versatility:** There are many ways to screen print on the different substrates.

4) **Artwork:** one proper out-put device (Ink jet/Laser jet/Thermal) with film that is compatible with stencil material and print job.



5) **Requirements:** Frame, mesh, screen preparation (chemicals), stencil (choice), squeegee, ink, substrate, chemical to clean up with, Reclaiming Chemicals, Press or fixture to hold frame & substrate, additional items such as sinks, exposure equipment, ways to produce film positives, appropriate dryers. Knowing the products & substrates perimeters and how they function.

6) **Frames:** Pre-stretched, wood, metal, re-tensionable frame,
Getting the quickest and best procedures integrated into your shop. Screen tension and how it pertains to printing.

7) **Mesh:** Multi filament, Monofilament, dyed, white,
Mesh Count/Fabric Width/Thread diameter, Thread type, having the right mesh count for the right job.

8) **Screen Prep Chemicals:** Mesh preps & degreasers. Mesh MUST be clean prior to stencil application.

9) **Re-claim chemicals:** Screen Wash/ink removal, Stencil removing, Stain removing, Haze removing.

MR. REPAIR “SCREENPRINTING 101”

10) Stencil: Direct liquid Emulsion (applied directly onto the screen), Capillary direct Film (CDF or cap film applied directly to the screen with water or emulsion), Hand cut films (waterbased films for solvent type inks, and lacquer based film for waterbased inks).
Understanding the stencil product, knowing the latitude of exposure time. What is underexposure/overexposure and what problems can they cause. What other products work in conjunction with the stencil material. What other products are not compatible with the stencil material. Getting proper resolution using an exposure calculator.

11) Squeegee: Durometers (hardness), dual-Durometers, plastic
The harder the durometer blade the less ink deposit put down on the substrate, the softer the durometer blade the more ink deposit is put down on the substrate. Different types of printing require different hardness blades.

12) Inks: Substrate & Specific application. Textile: Water Based (Co-Solvent), Plastisol, Nylon, conventional (PX, DA Series) Conventional: Air dry solvent evaporative, Poster (POP), Vinyl, Plastics, Enamels, Epoxy,UV Curable: Replacing some conventional (Air dry) inks.
How additives & Modifiers: Thinners, Retarders, Extenders, Catalyst, Ink Degradent works with their counter parts. The various mixing systems and how to manipulate them correctly.

13) Off-Contact: Why printing off-contact is important and when it is necessary. How much for substrates. How it can affect inks and printing and mesh. Textile: waterbase inks penetrate into the garment and bind & cure in the garment resulting with a soft hand feel may not have great opacity. Plastisol inks fuse onto the surface of the garment with 300-320 degrees.

14) Substrates: Paper, plastic, wood metal, fabric. Vacuum needed to hold non-porous material Textile adhesive for fabric or non-Dimensionally stable substrates (T Shirt printers) Heat sensitive products.

*Tips:

1). Pick what works for you or your shop, not everything that works in someone else’ s shop will work for you. They are two different environments.

2). Don’ t be afraid to experiment before you actually do a print job.

3). You want to have a good production flow of goods in, and goods to be printed (staging area), and goods to go out, it is vital in your shop.

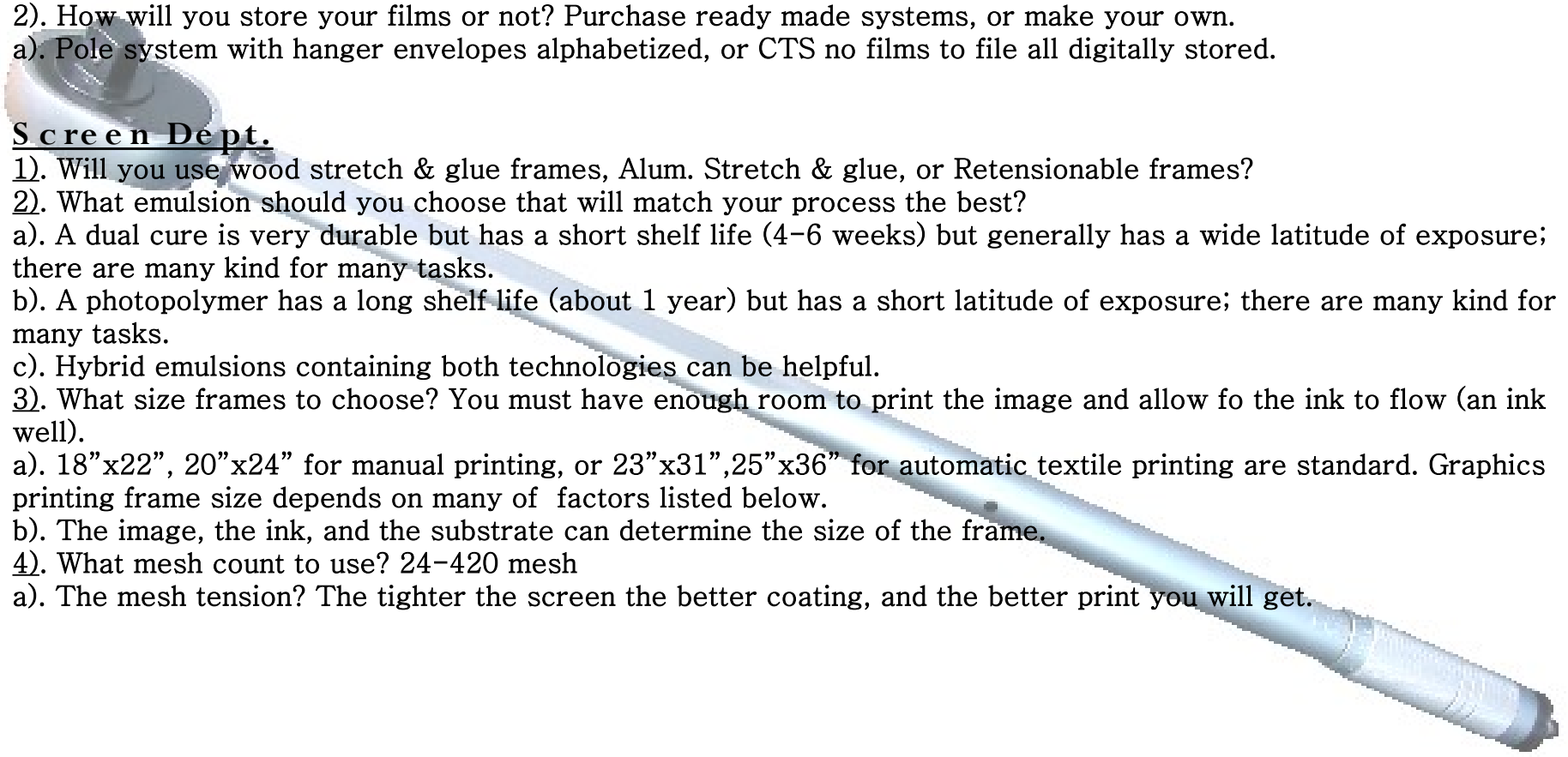
4). When you purchase your screen printing equipment, keep in mind you do not want to go to work every day and fight the equipment, it should be a fairly smooth operation. Any equipment will print on a substrate; " it is how much aggravation you are willing to deal with in your profit making endeavor not how much the equipment costs that is key.

MR. REPAIR "SCREENPRINTING 101"

Identify your departments and organize each department one at a time:

Art Dept.

1). What kind of output device will you choose to produce your film positives.
a). InkJet, Lazerjet, Thermo, CTS.
b). Sheet clear film, roll clear film, lazer film, paper velum, Thermo films, CTS-no films (digitally stored).
2). How will you store your films or not? Purchase ready made systems, or make your own.
a). Pole system with hanger envelopes alphabetized, or CTS no films to file all digitally stored.



Screen Dept.

1). Will you use wood stretch & glue frames, Alum. Stretch & glue, or Retensionable frames?
2). What emulsion should you choose that will match your process the best?
a). A dual cure is very durable but has a short shelf life (4-6 weeks) but generally has a wide latitude of exposure; there are many kind for many tasks.
b). A photopolymer has a long shelf life (about 1 year) but has a short latitude of exposure; there are many kind for many tasks.
c). Hybrid emulsions containing both technologies can be helpful.
3). What size frames to choose? You must have enough room to print the image and allow fo the ink to flow (an ink well).
a). 18"x22", 20"x24" for manual printing, or 23"x31",25"x36" for automatic textile printing are standard. Graphics printing frame size depends on many of factors listed below.
b). The image, the ink, and the substrate can determine the size of the frame.
4). What mesh count to use? 24-420 mesh
a). The mesh tension? The tighter the screen the better coating, and the better print you will get.