**Screen Printing Process Checklist Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
Flag High Screen Printing

**Emulsion on Screen**
- Pour emulsion into scoop
- Hold down scoop onto the screen until emulsion fully touches the screen
- Pull scoop up to the top
- Pull the screen from an angle then straight up to allow the emulsion to drain back into the scoop
- Pull the scoop again to make sure the coat of emulsion is consistent and even

**Register Transparency (film positive) on Screen**
- Place the image on the registration pinboard
- Make sure that it’s 3 inches from the collar
- Place two pieces of small tape on the image to hold it down
- Place pieces of tape in reverse on the transparency
- Place the screen down on the pinboard

**Burn the Image**- Place the screen on the exposure machine
- Place weight down because of our ghetto machine
- Clamp down the top level
- Turn on the vacuum and light

**Wash Out the Screen**
- Take the screen to the wash out station
- Turn on the gun by flipping the water upward and turning on the water pump
- Wet the screen and let sit for a minute
- Start the gun off the screen and then on the screen to wash out the emulsion
- Take the screen and place it on the drying rack

**Register the Screen on the Press**
- Place a felt on the palette
- Place the registration jig on the palette and tighten
- Pull down the printing head and place the screen on the jig
- Tighten the printing head knobs

**Printing on the screen**
- Flood the screen with ink towards you
- Print at a 45 degree angle away from you
- Make several passes
 **Turning the shirts on the Press
-** Print, lift screen and turn the palettes
- Flash dry and print while flash drying

**Mountain Shirts onto Palette**
- Place the shirt on the palette with the collar facing you
- Measure each side of the sleeves to make sure they are even
- Check the collar and make sure that it is aligned with the center bar of the palette – even on both sides
- Make sure the collar is lined up on the edge of the palette

**Retaping Palettes**- Spread the roll tape consistently across the palette
- Use the exacto knife to cut the edges
- Use a spatula to flatten the tape on the palette and get rid of any air bubbles **Gluing Palette Tape**- Place a quarter sized circle of glue onto your palette after you have taped it
- Use an old card to spread the glue evenly and consistently around the palette so the whole thing is covered. You may need to add a little bit more glue, but be careful!
**Cleaning Screens**
- Scrape ink entirely off screen and put back into ink bucket
- Pull of tape from screen
- Put on ventilation mask
- Use press wash and paper towels to remove the remainder of the ink off the screen \*\*BE THOROUGH\*\*
- Place the screen in the emulsion removal tank and allow to sit for 2-3 minutes
- Take the screen to the wash out station
- Turn on the gun by flipping the water upward and turning on the water pump
- Wet the screen and let sit for a minute
- Start the gun off the screen and then on the screen to wash out the emulsion
- \*If not completely clean\* Use the degreaser to take out more of the ink and rise again
- Take the clean screen and place it on the drying rack

**Proper Chemical Clean-up**
- Press Wash for oil-based inks
- Water for water-based inks

**Difference between screen filler and emulsion**
- Screen filler is red and is placed directly on the screen with a brush
- Emulsion is blue and is light sensitive
- Emulsion goes through the exposure unit
**Vocabulary**
Emulsion: A light sensitive liquid chemical that is applied to the screen, it becomes most light sensitive when dry. When dry, it allows for a stencil to be “burned” onto a screen.

Emulsion scoop**:** A tool used to spread emulsion on a silk screen

Emulsion remover: This part of the process is done when we need to reuse the screen for another job. The chemical needed is called "reclaimer" or stencil remover. It most likely will need to be diluted but there are some that you buy ready to use. It is most often put in a chemical resistant spray bottle and kept with other chemicals in your washout booth.

Silk screen: Silk fabric placed on a frame that allows for printing,

Film Positive: This is the clear piece of "plastic" with your artwork printed onto it in all black. Translucent papers such as vellum are also used.

Belt Oven: The piece of equipment used to cure the shirts. It contains several infrared heat panels that heat the ink to about 330 degrees Fahrenheit.

Bleeding - This occurs when an ink that is printed migrates outside of its printed area into surrounding areas of the shirt. This can occur with 2 different colors printing closely as well. This is much like when you use a sharp tipped permanent marker on a heavy paper, sometimes when you draw a line the ink "bleeds" into the surrounding paper fibers causing spider or vein like edges.

Color Composite - A full color rendition of your design exactly the way you want it to be on the shirt.

Coverage - The quality or amount of ink that is laid down onto a shirt when printed through the screen. Also referred to as the opacity.

Crest - A design printed over the heart area of a tee shirt.

Cured Emulsion - Emulsion that has been exposed to light. Curing is the actual chemical process by which the emulsion becomes insoluble in water.

Cured Ink - Ink that has been through the oven at about 330 degrees Fahrenheit. Curing is the actual chemical process by which the ink dries and bonds to the shirt fabric.

Drying Cabinet - This is the place where you dry your freshly emulsion coated screens. It can be self-contained and light safe with vents or fans that circulate the air for quick drying of emulsion on screens.

Extenders - Chemical additives in plastisol ink used to smooth the texture, increase volume, reduce opacity, while not reducing viscosity.

Flash Cure - The process of exposing a printed shirt to a heat source less than that of the curing oven in order to make the ink dry to the touch.

Flood and Stroke - These terms refer to the act of spreading ink over the screen and then pushing the ink through the screen respectively.

Frame - The rectangular wood or metal body used to hold the stretched mesh in a fixed position.

Ink Degrader - An ink solvent that breaks down the ink before reclaiming.

Knit - This is what we call the style of sewing that is used to make shirts and other garment. There are different types of knit with varying degrees of smoothness and textures.

Light Table or Exposure Unit - This is the piece of equipment that will shine light on your emulsion coated screen curing the emulsion, (or not curing the emulsion where your artwork is). This is known as "exposing" or "burning" your screen.

Mesh Count - This is the number that refers to the size of the openings in between the filaments of thread in the mesh. Lower numbers, like 110, have bigger openings and smaller numbers, like 355, have very small openings. With plastisol inks lower mesh counts leave a heavier, rubbery deposit of ink on the shirt. Using a higher mesh count will produce a much softer fell to the print.

Mesh or Fabric - The polyester material stretched over the frame through which the ink passes.

MSDS - Also known as, Material Safety Data Sheets. These are informational documents with chemical specifications that are often required by law to be kept on hand with the chemicals during use and/or transit.

Pellon – A thin piece of fabric that is used for printing test prints.

Plastisol Ink - Plastisol ink is a type of ink used for silkscreen printing on to textiles. Plastisol inks are the most commonly used inks for printing designs on to garments, and are particularly useful for printing opaque graphics onto dark fabrics. Plastisol inks are not water-soluble. Because the ink is made up of PVC particles suspended in a plasticizing emulsion, the ink will not dry if left for extended periods of time. Plastisol inks are recommended for printing on colored fabric and on lighter fabric; plastisol is extremely opaque and can retain a bright image for many years. Plastisol inks will not dry, and need to be cured as a result. Curing the inks can be done with a flash dryer, or a belt oven. Most plastisol inks need to reach a temperature of about 350 degrees Fahrenheit before being fully cured. Plastisol tends to sit on top of the threads instead of soaking into them, giving the print a raised, plasticized texture. When printed through higher mesh counts, plastisol inks can produce a softer feel.

Pre Shrinking - The process of flash curing the shirts on the pallets before printing in order to shrink the garment. This prevents registration problems due to garment shrinkage.

Press Wash - This is an ink solvent that is emulsion friendly and can be used on the press during printing for color changes. It will not damage the stencil.

Printable Area -The area of the screen where the film can be placed without distortion to the artwork. This will tend to be center balanced.

Reclaiming - This part of the process is done when we need to reuse the screen for another job. The chemical needed is called "reclaimer" or stencil remover. It most likely will need to be diluted but there are some that you buy ready to use. It is most often put in a chemical resistant spray bottle and kept with other chemicals in your washout booth.

Reducers - Ink additives used to lower the viscosity of inks

Registration - The alignment of one color of artwork with another. Multi color prints require the different colors of the artwork to line up correctly in relation to one another.

Resolution - The sharpness or clarity of your print

Stencil Break Down - This occurs when the emulsion did not adhere properly to the mesh or when the emulsion was not cured properly. The stencil will begin to fall apart and break away from the screen.

Substrate - This is any item that is being printed on. The side of the screen that comes in contact with the substrate in known as the substrate side.

Under Base - Printing colors on dark garments often requires a layer of white ink printed under and before all other colors. This allows the colors to stay true and maintain opacity over the dark fabric.

Vacuum - The vacuum on the light table ensures that the film is in direct contact with the emulsion coated screen and no light is able to pass around the film.

Vacuum Blanket - The rubber cover that covers the screen in the exposure unit. It is pulled around the screen by a vacuum.

Vector Art - The representation of continuous lines and shapes in digital art through mathematical algorithms.
Washout - The step in which you "wash out" the uncured soluble emulsion from the screen with water.

Washout Booth - The piece of equipment used to wash screens in. It will always have a light panel in the rear so you may see through the screens as you work with them. Several steps in screen printing are actually done here.

Water Soluble - Able to be dissolved in water.