

## Section Two:

# Getting to Know Your Machine

# Needle Requirements

## Needle Size

The needles supplied with your machine are a **Singer industrial 1955-01-MR 4.0**. This needle is specially selected to match the timing of your quilting machine (“timing” refers to the relationship between the needle and the hook assembly.) A “4.0” needle is similar to a size “18” normal sewing machine needle. It should be sufficient for most of your quilting needs. Because the needle will flex as you move the head around on the fabric, a 4.0 needle will help reduce skipped stitches, broken thread, and poor stitch quality. Its stiffer shaft also helps reduce the chance of a broken needle.

However, occasionally quilters work with very heavy fabrics such as denim and upholstery material. We have “5.0” needles available for purchase for these situations. In addition, you may want to use a “3.5” needle with finer fabrics or tightly woven fabrics such as batiks. We do *not* recommend any other needle brands or sizes for your APQS machine; needles finer than 3.5 may flex too greatly, and needles heavier than 5.0 will hit the hook assembly. By ordering your needles from APQS you are assured of getting a high quality needle that is the correct size for your machine and your quilting needs.

## When to Change the Needle

Change the needle frequently for best results. Many quilters use the same guidelines they do when sewing on their domestic machines—change the needle with each new project. However, because these needles are larger and are designed for industrial use, they can last longer than a typical sewing machine needle.

Change the needle immediately if you notice batting “bearding” to the back of the quilt, or you hear a popping sound each time the needle enters the fabric. Analyze the holes the needle makes in the fabric. The hole should look like the needle has pushed apart the fabric’s threads (unless the fabric is densely woven.) If the needle seems to have shredded the fabric’s threads, it could be dull or have a burr.

Some fabrics and quilting situations are hard on needles. Consider changing your needle if you have quilted through any of the following:

Fused Fabrics

Denim, Upholstery Fabric

T Shirts

Double Knits

Polyester Batting (particularly high loft)

Bulky Seams or Multi-layered Quilts

### How to Insert/Change the Needle

- Open the package of needles and remove one needle. Pay attention to its orientation. You'll notice an indentation on one side of the needle, near the eye. This indentation is called the "scarf". This is the "back side" or rear of the needle, and will face the throat of the machine.
  
- Using a small, flat blade screwdriver, loosen the screw on the side of the needle bar by turning it to the left. NOTE: if you are replacing a needle, some quilters find it helpful to slip a piece of paper under the hopping foot to prevent the old needle from falling into the hook area as you loosen the screw. Remove and carefully discard the old needle.
  
- You'll notice that there is no "flat side" of the needle as is common on domestic machine needles. The needle's eye must be aligned properly to allow the hook to pass behind the needle's scarf correctly. One simple way to check alignment is to insert a very fine pin into the eye of the needle from the front, after sliding the needle into the needle bar shaft but before completely tightening the needle screw. Use the pin as a type of "compass"; the needle's eye should be pointing straight ahead, or very slightly to the *left* as you look from the front of the machine.
  
- Once you've got the needle's eye positioned correctly, and have inserted the needle as far as it will go up into the needle bar shaft, then tighten the needle screw securely. Make sure that the needle

screw is tight, but be careful not to over-tighten, since the threads can strip inside the needle bar.

- It's always a good idea to rotate the fly wheel by hand (when standing at the front of the machine, turn the wheel up on the left, and down on the right for proper rotation) to check that the needle is inserted correctly. This will help prevent a broken needle or damaged hook, should you not get the needle up into the needle bar completely before running the machine.

Side view of needle



Scarf of needle

Front (toward handles)

Back (toward throat of machine)

Needle Bar Screw



Side View

