

Needle Information

CANU System (Family)

All needle systems with the same specifications or characteristics, length butt to eye, shank size, shank type (flat or round shank), etc., belong to the same CANU system or family. All needles with the same CANU system have the same characteristics and can be used in the same machines. The Handi Quilter quilting machines use the 134 needle system. The CANU system family is 20:05. The systems listed on the package are 134, 135 X 5, 135 X 7, DP X 5, 797, and SY 1955.

Needle System (Individual)

The Needle System number designates the individual needle specifications or characteristics required by the machine. HQ quilting machines use the 134 needle system. The systems listed below all belong to the same CANU System Family (20:05) as the 134 System; in other words they have all the same specifications and characteristics. They are the same needle with different individual names.

CANU System (Family): 20:05
Needle Systems (Individual): 134
134
DP x 5
135 X 5
135 X 7
797
SY 1955

You will note that all these needle system numbers are printed on the same Groz Beekert package.

Needle Size

The size of needle is determined by the fabric and the thread; the heavier the fabric and the heavier the thread, the heavier or larger the needle must be. The larger the needle size the larger the long groove / channel down the front of the needle and the larger the eye. Mismatched needle size to fabric and thread can cause problems such as, fabric damage, thread damage, and skipped stitches. Handi Quilter carries needles from sizes 80/12 to 125/20 for use in Handi Quilter quilting machines. (80 is the metric size designation and 12 is the Singer size designation)

Needle Point

Needles are available with different points for different fabrics and applications. Sharp point needles are normally used on woven fabrics to give straighter stitches. Ball point needles are generally used on knit fabric to prevent fiber damage.

Needle Parts and Description

Round Shank

Handi Quilter machines use a round shank needle like many commercial and industrial machines. The two main reasons for this are: (1) the round shank is stronger because it does not have a ground flat; and (2) the round shank provides adjustability because there is no ground flat. The needle may be rotated slightly by the end user and thus the timing can be adjusted slightly without taking the machine to a shop. This gives the end user more control to solve issues when combined conditions lead to a problem

Scarf

The scarf is a small dip or ground away section on the back of the needle above the eye and is provided for hook to needle clearance. The larger the needle the deeper the scarf on the needle will be. This allows the needle to be set very close to the hook point without hitting the needle when different needle sizes are used. The needle company adjusts the needle scarf depth for us so we do not have to retime (reset needle distance to hook) the machine for different sized needles. If the needle is adjusted too far from the hook, skipped stitches can result. If the needle is set too close to the hook, interference and noise will result.

Important Note

HQ quilting machines can use a crank needle, with a bent scarf instead of ground out scarf, for high speed quilting if the needle is the correct needle system, i.e. the 134 needle system. Handi Quilter offers “High Speed Longarm Quilting Needles”, 134 MR needles with a bent scarf for sustained high-speed quilting of 2000 stitches per minute or greater. Handi Quilter offers these needles in sizes, 80/12, 90/14, 100/16, 110/18, 120/19, and 130/21.

The Long Groove/Channel

The front of the needle has a long groove/channel all the way down the front. The long groove/channel shields or protects the thread on the front of the needle so the thread won't be pinched in the front. If the thread is pinched in the front, the front will rob part of the loop from the back of the needle, thereby increasing the potential for skipped stitches. The stitch is formed by friction pinching the thread on the back of the needle. After the needle reaches its lowest point and then raises a short distance a loop is formed on the back side of the needle. After the loop forms the hook point enters the loop of thread from the needle (top thread) at the scarf. The top needle thread is passed over the top of the hook and bobbin case with its thread (lower thread) until the two threads wrap around each other and the stitch knot is formed. Thus the stitch is created.

Installing the Needle

The needle is installed with the long groove / channel towards the operator, as seen by the operator when installing the bobbin case or when standing at the front handle bars. The small ground away scarf or small dip goes away from the operator and towards the hand wheel side of the machine. The needle must be installed into the needle bar all the way to the stop/sight hole.

The stop/sight hole has two purposes: (1) to stop the needle at the right place every time; and (2) to give the operator a visual check to make sure it stopped in the right place every time. The stop/sight hole is above the needle clamp screw and goes all the way through the needle bar. The end of the needle shank must touch the top of the stop/sight hole. The eye of the needle should be straight towards the operator at six o'clock if one drew an imaginary clock on the needle plate. The timing of the machine can be adjusted slightly by the operator, for example, by turning the needle to the 7 o'clock position to advance the timing or to 5 o'clock to retard the timing. This might be done if the end user was experiencing skipped stitches or shredding of thread.

Problems with Incorrectly Installed Needles

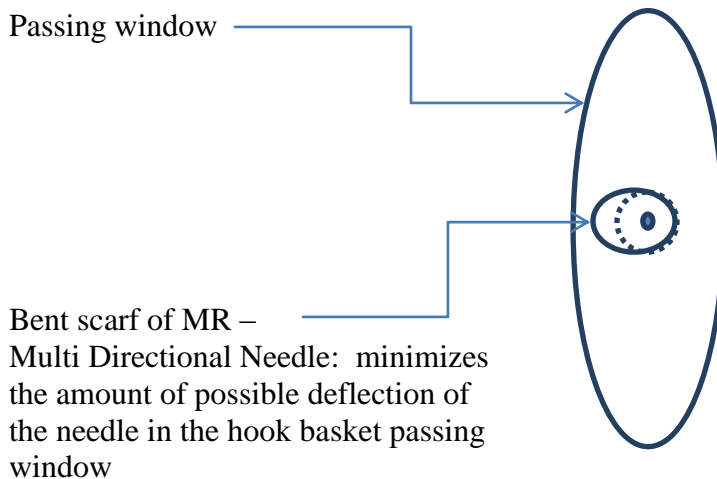
If the needle is not installed all the way to the stop/sight hole or is rotated so the eye of the needle is not towards the operator, then stitch problems may arise. Improperly installed needles will cause problems. This may be manifested by skipped stitches, inconsistent stitches or the shredding of thread.

Summary

It is very important that a straight needle of the correct needle system, size and point, be installed correctly (in the needle bar all the way to the stop hole and rotated with eye at 6 o'clock to the end user) for proper machine operation. No matter how good a machine is, it cannot and will not sew without the correct needle installed properly. The needle is the single part without which the machine can do nothing.

Bent Scarf

MR – The scarf is bent out towards the front of the machine hook instead of being ground away. This bend puts the needle scarf closer to the passing window minimizing the amount the needle can be displaced by the fabric in multidirectional sewing.



RE: Issue of skipped stitches related to the quilter using the wrong needle in the machine

The HQ Technical Solutions team members have taken calls about skipped stitches related to the quilter using the wrong needle in the machine. In some cases, the customer bought the needles from an online vendor, but in some cases the quilters purchased the needles from Handi Quilter Retailers.

If you carry needles other than the ones recommended by HQ (perhaps for other machines), please educate your staff about this, so Handi Quilter owners are not sold the wrong type of needles for their machines. If you do not carry the right needle system for HQ machines, you need to remedy that.

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CANU System (family): 20:05

Needle Systems (Individual): 134

134

DP x 5

135 X 5

135 X 7

797

SY 1955

HQ Recommended Needles

All HQ machines use the 134 needle system from the CANU family 20:05. Handi Quilter offers three types of long arm needles in this system: Standard Long Arm Needles, Ball Point Long Arm Needles, and High Speed Long Arm Needles.

HQ has tested and sells sizes: 12/80, 14/90, 16/100, 18/110 and 20/120 in the 134 needle system with the machined scarf.

- **The Standard Long Arm Needle** letter (R) refers to the needle point, a sharp point needle.
- **The Ball Point Long Arm Needle** letter (FG) refers to the needle point, a ball point needle. Ball point needles are for use with knits (such as T-shirt quilts or Minkee-type fabrics).
- **The High Speed Long Arm Needle** letter (MR) for scarf and (R) for point, has also been tested by HQ. It is sold in sizes: 12/80, 14/90, 16/100, 18/110, 19/120, and 21/130 in the 134MR needle system with bent scarf, sometimes referred to as a crank needle with a (R) sharp point. This high-speed needle has less deflection than other longarm needles and is recommended for sustained highspeed quilting of 2000 stitches per minute or greater with longarm quilting machines that use the 134 needle system.

What's the Difference?

The diagrams below show the difference in the needle profiles between a Standard and a High Speed Needle. Notice the smooth profile on the long groove side of the needle for our recommended standard needle. The crank needle has a bend in the profile on the long groove side.



Standard
Needle



Crank
Needle

Titanium Needles

Needles with titanium coating are designed to last longer due to the hardened outer titanium coating. This needle conflicts a little with the recommendation: "Every quilt deserves a new needle". Handi Quilter does not currently sell titanium needles, but there are at least two kinds available. If the needle is a 134 needle system needle, either the bent or machined scarf needle should work fine when used in the correct application (correct point for the fabric and correct needle for the stitches per minute being quilted).



(All Packing artwork are subject to change)