



# Version 2.0 Upgrade Features and Operation Instructions

This QBOT upgrade adds these significant features to your QBOT:

- 4-Point Proportional Scaling
- Trace Boundary Function
- Automatic Rotation and Skewing with Non-Proportional Scaling
- On-Board Design Rotation Ability
- 'Another' and 'Overlay' Functions
- Echo Quilting

## 4-POINT PROPORTIONAL SCALING

Let's look at placing a quilt design in the odd-shaped block shown below (Figure 1). With 2-Point scaling, this would be a little difficult, but with 4-Point scaling it's a breeze. After the design (Figure 2) and 4-Point Scaling (Figure 3) are chosen, simply follow the prompts to denote the quilting area (Figures 4-7).

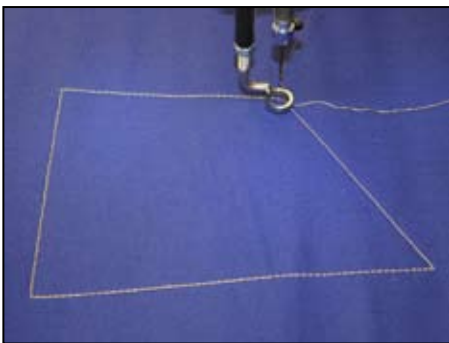


Figure 1. Odd-Shaped Block

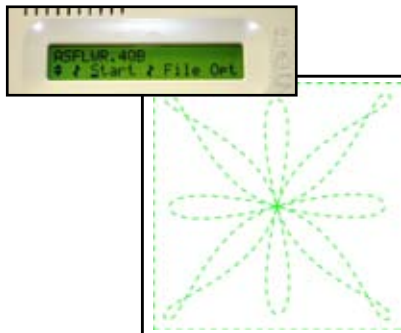


Figure 2. Choosing the Design



Figure 3. NEW FEATURE (Scaling Type)

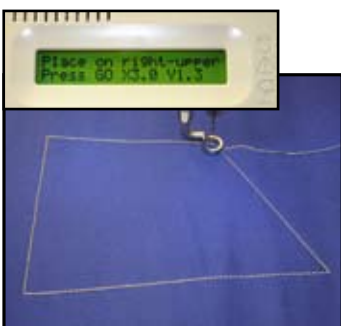


Figure 4. Right-Upper

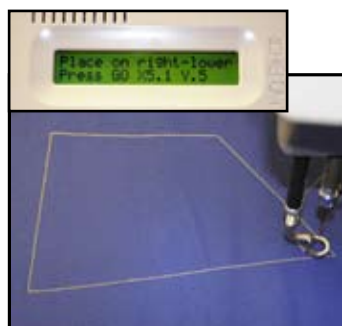


Figure 5. Right-Lower

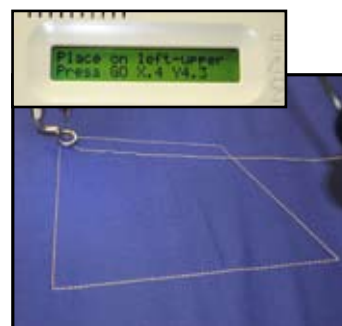


Figure 6. Left-Upper

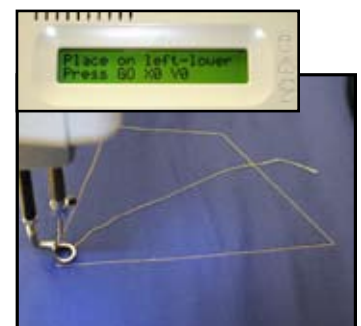


Figure 7. Left-Lower

## Set Rotation Degree

As you go through the menu prompts in Version 2.0, you will notice a new feature, 'Set Rotation Degree' (see Figure 8). If you would like to rotate your design **INSIDE THE SELECTED AREA**, then you can enter the amount of rotation. Enter a **POSITIVE** angle and the design will be rotated **CLOCKWISE**. Enter a **NEGATIVE** angle and the design will be rotated **COUNTER-CLOCKWISE**.



Figure 8. NEW FEATURE (Rotation)

## Trace Boundary

Another NEW FEATURE is the 'Trace Boundary' option (Figure 9). You can use this option to verify that the quilted design will be placed in the chosen area. Similar to home embroidery machines, the needle will trace the boundary without sewing. This tracing will be of the shape of a box that fully encloses the design, *not the outline of the design itself*. This can be a useful tool to verify placement of a design in quilt blocks that are of 'non-standard' shapes.

Figure 10 shows a heart design and the boundary (in red) that will be traced during the 'Trace Boundary' function.



Figure 9. NEW FEATURE (Trace Boundary)

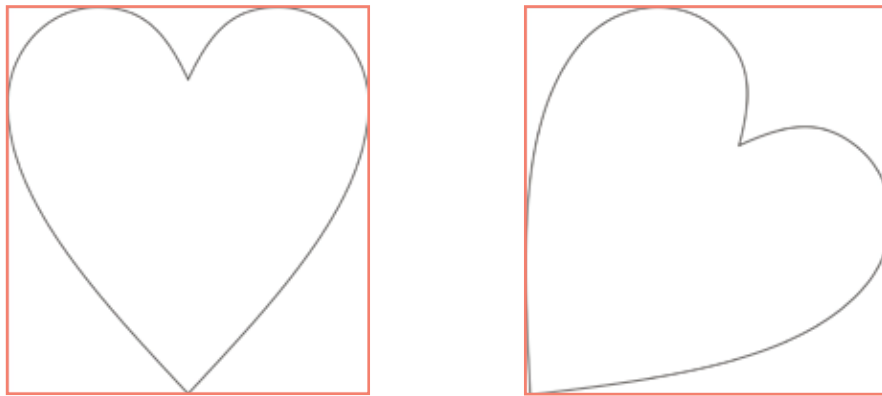


Figure 10. Designs (black) and Boundary (red)

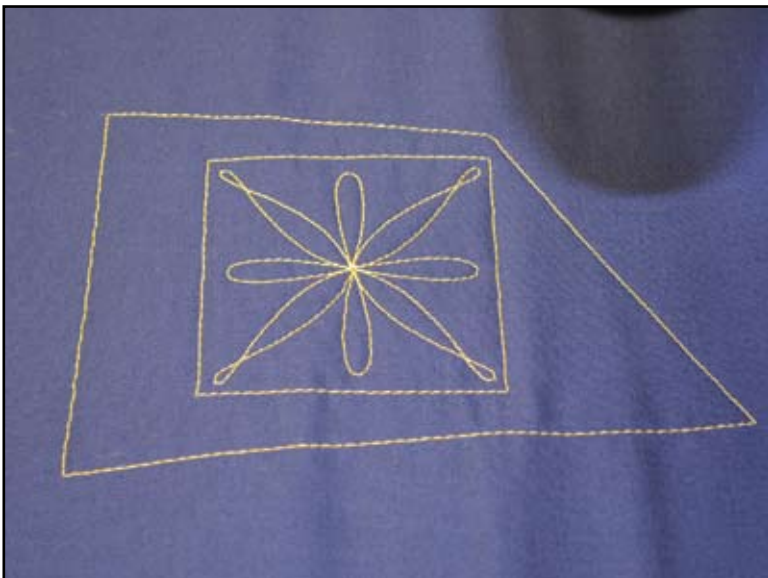


Figure 11 shows the completed design inside the Non-Standard block shape. This design was not rotated.

Figure 11. Finished Design Inside Non-Standard Block Shape

Next, QBOT automatically fits designs into TRIANGULAR boundaries as well. The triangle boundary is treated as a special case of a four-sided boundary by selecting a set of adjacent corners at ALMOST THE SAME POINT. Note how the right-lower point is slightly lower than the right-upper point. The following figures show an example.

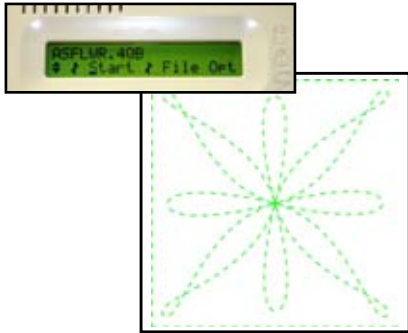


Figure 12. Choosing Quilting Design



Figure 13. Choosing 4-Point Scaling

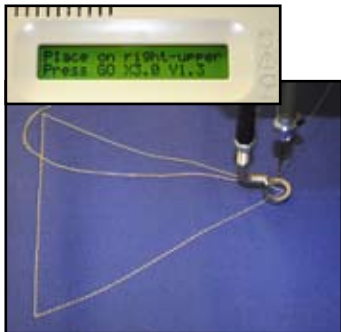


Figure 14. 'Right-Upper'

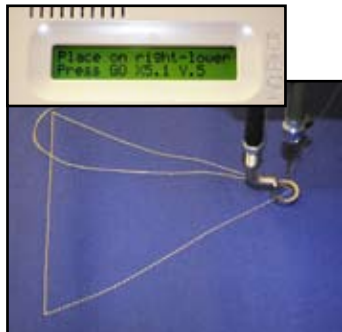


Figure 15. 'Right-Lower'

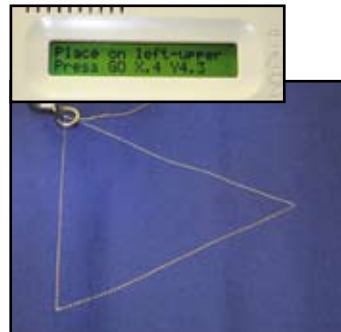


Figure 16. 'Left-Upper'



Figure 17. 'Left-Lower'

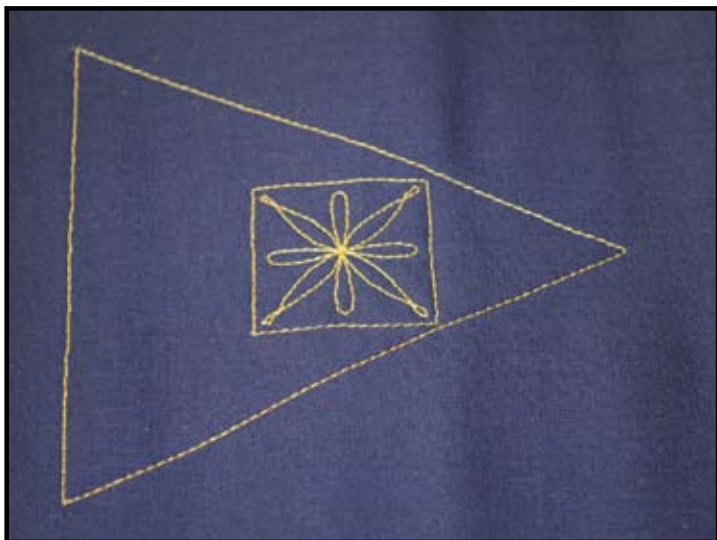


Figure 18. Proportional

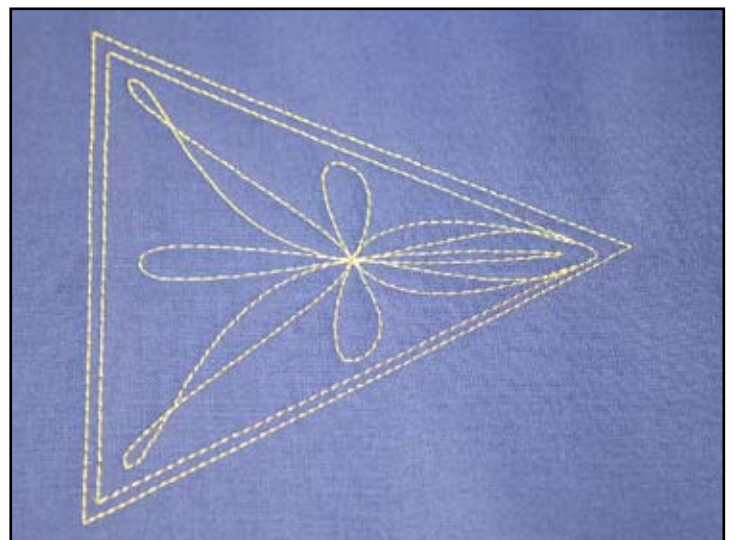


Figure 19. Non-Proportional



## 4-POINT NON-PROPORTIONAL SCALING

Non-Proportional scaling is perhaps the most powerful feature in version 2.0 of the QBOT. Used in conjunction with the QBOT software, the new scaling method leads to the most professional results yet!

We have all run into a quilt top where the piecing isn't perfectly aligned when it is installed on the quilt frame. Even our best efforts to align the top fall short in the middle and end of the quilt once we have advanced the quilt a couple of times.

We can minimize the effect of this skewing and slight rotation of the top by using the 4-Point Non-Proportional scaling method. Here is the work-flow for using this powerful new tool:

1. Measure the dimensions of the quilt block or the border that you want to quilt.
2. Size your design to these measurements in the QBOT software and save the designs to the SD card.
3. Select the design in QBOT, choose 4-Point Scaling, choose the boundary points, choose 'NO' to the 'Keep Proportion?' question, and choose 0° for the rotation.
4. QBOT will move to the start point and begin quilting. QBOT AUTOMATICALLY rotates and skews the design to compensate for the slight rotation and skewing of the quilt blocks.

Note the quilt block shown in Figure 20. The outermost line is an outline of the 'quilt block.' It is both rotated and slightly skewed on the right-hand edge. The quilt design was placed with the 4-Point, Non-Proportional method. Note how perfectly the design has been rotated and skewed to fit the block - AUTOMATICALLY. You can now quilt difficult designs with highlighting borders 'in the vicinity' of the ditch, with this method. The results look more professional and natural, not skewed and mechanical!

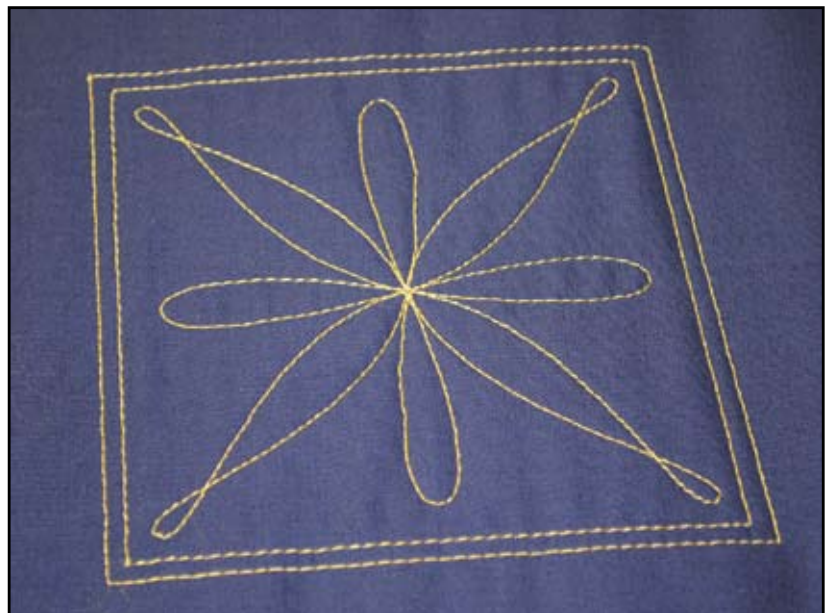


Figure 20. Automatic Rotation and Skew



## ON-BOARD ROTATION

In version 2.0 you now have the ability to rotate a design at the QBOT before quilting it out. In Version 1.0 each rotation of a design was a different design file. Now, only one design file is needed and you can choose the rotation angle at the QBOT.

Rotation works with 4-Point scaling only. In the example shown here in Figure 21, the corners (A,B,C,D) were chosen, 'YES' was chosen at the 'Keep Proportion?' prompt, and +30° was chosen at the 'Set rotation degree' prompt.

The design is automatically scaled and rotated to fit inside the original chosen block (A,B,C,D.)

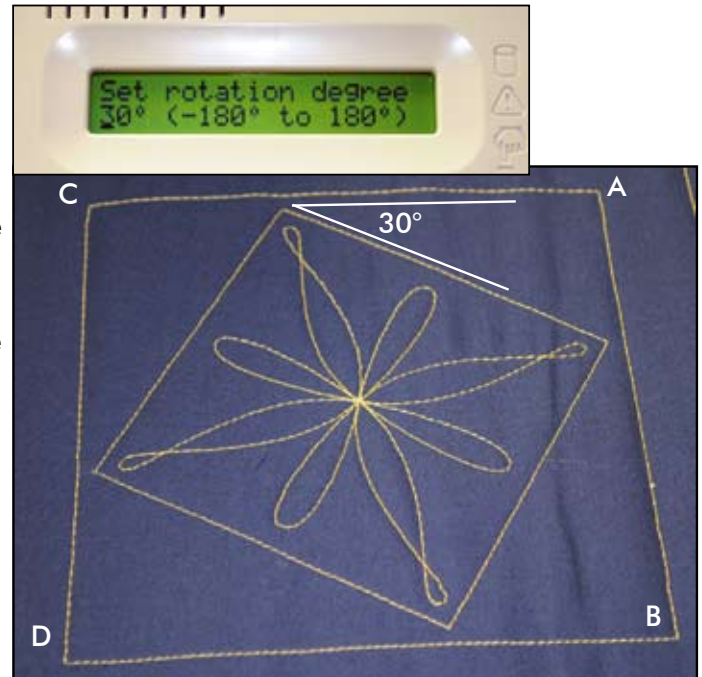


Figure 21. Rotated Design Inside Block

## 'OVERLAY' AND 'ANOTHER' FUNCTIONS

When QBOT has finished quilting a design, the 'Another|Overlay|Exit' menu is displayed on the screen. Choosing 'Exit' will exit the quilting process. Choosing 'Overlay' and following the on-screen prompts will quilt the same pattern on top of itself. This can provide a desired effect to highlight designs on wearable art, garments, and home-dec items. The 'Overlay' function in version 2.0 of QBOT is similar to the 'Repeat' function in Version 1.0 of QBOT.

An exciting new feature in Version 2.0 is the 'Another' function. This is especially useful when quilting edge-to-edge designs on wide quilts when the design you have is less than the width of the quilt. If the design has beginning and end points that are at the same level (i.e. the same Y-axis coordinate), then you can use the 'Another' function to link successive stitch-outs together to form a long chain. Figures 22 and 23 show the use this function.

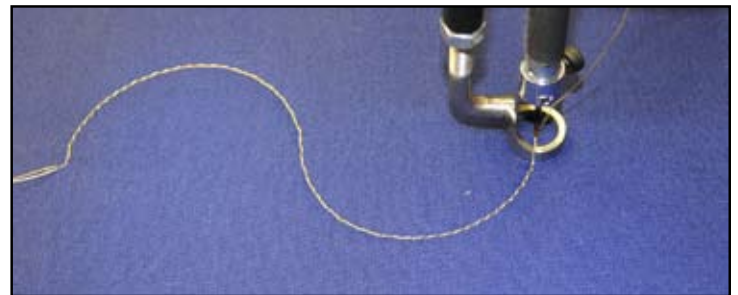


Figure 22. Finishing of One Element

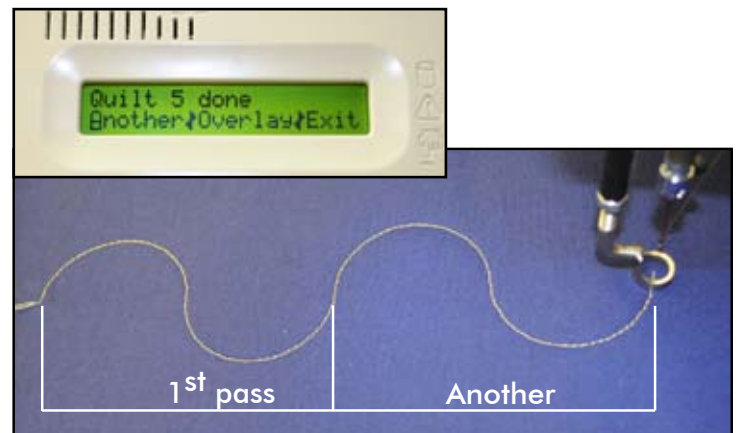


Figure 23. Another is Added to the First



## ECHO QUILTING MADE EASY

Echo quilting in blocks can add depth and drama to your quilt. With Version 2.0, echo quilting is a snap! Figures 24-26 show the steps to successful echo quilting. Here are the steps:

1. Choose the Test.4QB file (a simple square)
2. Choose 4-Point scaling
3. Follow the prompts to choose the corners of the block (A,B,C,D in Figure 25)
4. Choose 'NO' when asked to 'Keep Proportion?'
5. When the 'GO=Move to Start' menu appears, use the UP and DOWN arrows on the keypad to change the scale. In this example of a 5" block, choosing 90% will yield a 1/4" echo of the block. Once the scale is changed to the desired amount, press 'GO' to move to the start point. Press 'GO' again to begin quilting.
6. The first echo is complete.
7. Choose 'Overlay' from the 'Another|Overlay|Exit' menu
8. At the 'GO=Move to start' menu, use the up down arrows to change the scale. In this example, 80% is chosen to continue with a 1/4" echo.
9. You can repeat these steps to create as many echos as you would like.

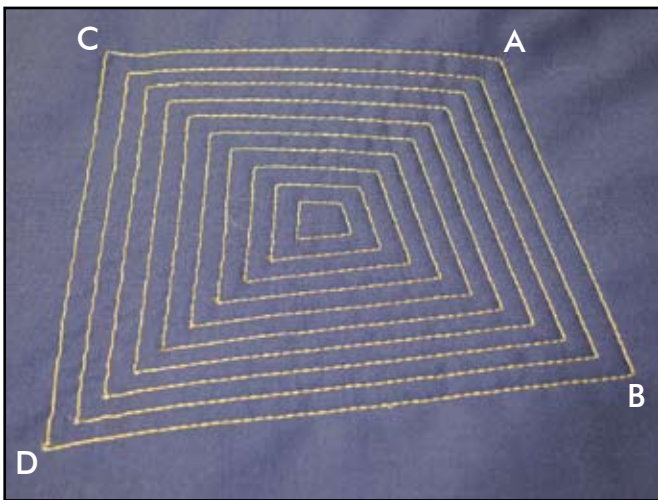


Figure 24. Choose the Corners



Figure 25. Adjust the Scale



Figure 26. Use Overlay to Echo More