Included in this PDF: Construction steps for making your own linen towels, basic instructions for setting up to stitch-out the main embroidery designs, plus hints and tips for selecting stabilizers.

The embroidery files themselves are on the S4H project page in two separate folder collections. One collection includes the three main Atomic designs plus a large and small version of the Atomic Particle Starburst. The second collection includes all 26 letters of the Atomic Alphabet as well as the optional Background Diamonds in sets of three, four, and five diamonds. Each of the two collections is offered in seven major machine embroidery formats: ART, EXP, JEF, JPX, PES, VIP and VP3.

Also, don't forget to access the FOUR additional PDFs included with this Design Set:

- Atomic Embroidery Color Chart - *for the three main designs + the particle starbursts*
- Atomic Embroidery Templates - *for the three main designs + the particle starbursts*
- How to set up words using the Atomic Alphabet - *Janome-centric screens + notes*
- How to set up words using the Atomic Alphabet AND the Optional Background Diamonds PLUS a Color Chart for the Diamonds - *Janome-centric screens + notes*

CONSTRUCTION STEPS FOR MAKING YOUR OWN LINEN TOWELS

SEWING TOOLS YOU NEED

Sewing/Embroidery combination machine or Embroidery Only machine; we used the Janome Continental CM17 - a top-of-the-line combination model

- Standard Presser foot and Embroidery foot

FABRIC AND OTHER SUPPLIES

Amounts shown are for ONE towel that finishes at 20" wide x 30" high.

- 1 yard of 44"+ wide linen or cotton/linen blend; *we used Essex Linen/Cotten Blend from Robert Kaufman Fabrics in Natural and Black*

NOTE: *One yard of Essex Linen can actually make two towels cut side by side; you need the full yard in order to cut the initial panel at 32" in height because, when using linen, you want to cut your panel so the grainline is along the warp of the fabric.*

- ¼ yard of ½" wide cotton twill tape; *we used natural and black to match our towels*
- All purpose thread to match your fabric
- See-through ruler
- Fabric pen or pencil
- Seam gauge
- Seam ripper
- Scissors
- Rotary cutter and mat
- Iron and ironing board
- Straight pins

GETTING STARTED

- For each towel, cut ONE 21" wide x 32" high panel.
- For each towel, cut a 5" length from the twill tape.

AT YOUR SEWING MACHINE & IRONING BOARD

NOTE: *The finished towels have ¼" double fold hems along the sides, and ½" double fold hems at the top and bottom, which is a standard format for a lightweight towel. The twill tape is used to create an optional hanging loop for each towel.*

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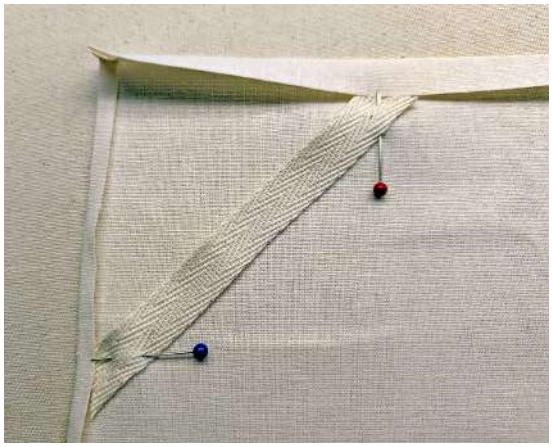
1. Set up your machine for Ordinary Sewing.
2. Thread the machine with a color to best match the linen fabric in the top and bobbin.
3. Attach a standard sewing foot.
4. Along each long side (the 32" sides), press back ¼".
5. Along the top and bottom (the 21" sides), press back ½".
6. Find the 5" length of twill tape. Trim each end to at a 45° angle.
7. Place the twill tape diagonally at the left corner (left as you are looking down at the back of the towel) so the diagonally cut ends of the tape match the cut edge of folded-back hems. Pin in place



8. Along the left long side, fold an additional ¼", enclosing the end of the twill tape in this double fold hem. Press well and pin in place. Repeat for the opposite side.
9. Edgestitch both sides in place, staying close to the inner fold.

10. Repeat on the top and bottom, but here you are folding ½". Along the top, you are enclosing the remaining end of the twill tape.

11. Edgestitch in place along the top and bottom. As you can see in the photo below, we used a folded bit of scrap fabric as a starter piece to give us a very clean start point. It can simply be trimmed away when the hem is complete.

12. As above, keep your top and bottom stitching close to the inner fold.

13. Press well.

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BASIC INSTRUCTIONS FOR SETTING UP TO STITCH-OUT THE MAIN EMBROIDERY DESIGNS

ADDITIONAL SUPPLIES

- 50wt cotton embroidery thread - remember to check the downloadable color chart for the detail on our choices - as always, you may select your own color combo - *we used Aurifil 50 wt cotton thread in #1148 Light Jade, #5015 Gold Yellow, #5016 Olive Green, #2425 Bright Pink, #1104 Neon Orange, #2024 White, and #2692 Black*
- Pre-wound bobbins
- Templates (another provided download)
- Water soluble tearaway stabilizer *
- Sticky stabilizer *

* *Keep reading below for our tips on selecting stabilizers.*

AT YOUR EMBROIDERY MACHINE

1. Set up your machine for Professional Style Embroidery and attach an embroidery foot.
2. Use bobbin thread in the bobbin (we suggest pre-wound bobbins) and 50wt cotton embroidery thread in the top. As mentioned above, refer to our downloadable color chart for our recommended colors.
3. Print out the placement templates. These are included with this Design Set as a separate PDF.
4. Select a design and trim around it.
5. Place the template on the completed towel, positioning it on the bottom end opposite the hanging loop. The bottom of the design should sit 3" up from the lower hemmed edge. The design's crosshair should be centered side to side.

6. Mark the center point of the crosshair with a pin on your base fabric.
7. Hoop two layers of water soluble tearaway stabilizer* and attach the hoop to the machine.
8. Transfer the chosen design to your machine. Select the design. The hoop will move into place with the needle directly above the marked center point.
9. NOTE: *As you'll see in the stabilizing notes below*, we added a layer of sticky stabilizer to the back of our towel large enough to cover the total area of the selected design.*
10. Position the towel over the hoop with the marking for the center point directly under the needle.

11. Adjust the position as needed so the sides of the towel line up and are parallel to the sides of the hoop. Use the baste function of the machine to secure the fabric to the hoop.

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12. Start the embroidery, changing colors as directed.

13. Continue through the design until the embroidery is complete.

14. Remove the basting stitches then remove the towel from the hoop. Finally, remove the excess stabilizer and press well from the wrong side.

HINTS AND TIPS FOR SELECTING STABILIZERS

As listed above, our Atomic Embroidery Designs were stitched on Essex Linen/Cotton Blend fabric. It has a relatively soft feel and a bit of stretch when pressed with a steam iron. The embroidery designs created for this Design Set have large areas of flat fill. This combination of a lighter weight fabric and a dense design can result in unwanted puckers.

To combat this, our choice was to add a sticky stabilizer to the back of the towel. We then hooped two layers of water soluble tearaway stabilizer. Finally, as shown above, we positioned the towel over the hoop to prevent hoop burn, using the Baste function on our Janome CM17 to secure the fabric to the hoop. The Janome CM17 has a selection of Baste options; we chose to use a double baste line. The final result: beautifully smooth embroidery.

Examples of sticky stabilizers:

- OESD Stabilstick
- Floriani Heat & Stay
- Floriani Dream Weave
- Sulky Totally Stable
- Sulky Sticky + Stabilizer

Examples of water soluble tearaway stabilizers:

- HTC Rinseaway
- OESD Ultra Clean & Tear
- Floriani Stitch & Wash

Another option for a choice of stabilizer is to use a cut-away stabilizer such as Sulky Stiffy.

Our lettering samples (shown in the main beauty photos and detailed in the other PDF files) were stitched on Essex Yarn Dyed Linen, which has a stiffer and crisper feel than the Linen/Cotton Blend. For these samples, we simply used the two layers of water soluble tearaway stabilizer – hooping and basting as described above.

The best advice is always to test, test, test! And, don't be afraid to layer the different types of stabilizer to get the best results.

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