



SARAH DRESS FORM

A CONTEMPORARY DRESS FORM IN THE SPIRIT OF CHARLES JAMES

Why construct an individual dress form? Are there no dress forms available in different standard sizes that would serve any conceivable need of tailors and designers? There are indeed a number of useful makes available commercially, but they are rather costly and are based on a youthful body in standardized sizes. Overall not much has changed in this field ever since Charles James had developed his standards. Even today many of the better studios try to overcome these deficits by customizing industrial dress forms. They cushion and stuff sections along the bust, waist, and hip to create dimensions more in tune with their own collections. But differences in posture and lengths cannot be accommodated this way. Meanwhile, the demands made on a body shape to be regarded as perfect have risen tremendously. Today, body shaping and body forming are superseding the corset. People optimize their bodies in extreme ways to conform to a given ideal. On the other hand, the market offers factory-made busts with distorted proportions and postures. Most of these products are as insufficient as the dress forms available in Charles James' days. These flawed busts are supposed to represent "idealized artificial bodies." But they rather represent sloppy fashion drawings or sexualized fantasies about supermodels. Consequentially, the muslins draped on these dress forms do not fit actual bodies when tried on in a dressing room. Young models all too often then conclude that their body does not suffice the demands of normalized beauty—what a tragic error! Recent developments in 3-D scanning and printing allow the creation of useful avatars as a basis for the creation of physical fitting forms. This approach uses averages derived from measuring a larger group of customers. These techniques make for a highly complex and very expensive process of creating dress forms. Other drawbacks are their tough, impermeable surface under the cloth cover that does not allow pushing pins through their shell while draping.

Most importantly: by proceeding this way, the tactile relationship to a body is lost completely. Building a dress form based on the cast of an actual body leads to unmediated experience and learning. The characteristics and the proportions of the model are internalized during the individual steps of making a dress form, thereby guaranteeing the best prerequisites for successful design work on a bust. Choose a "muse" for your dress form, decide on a type of natural body, and let yourself be inspired. Following Charles James, you should become aware that the uniqueness and the essential characteristics of your designs grow from the physicality and the fit of your patterns. As a reference to Charles James' "Jennie Dress Form" we are calling ours the "Sarah Dress Form." Our dummy comes with a modified armhole template and the princess seam lines on the cloth cover currently used in the industry. The seam lines are based on current course books on draping to allow their continuing use. The dress form shell and the core of the form are solid and permit pinning through the shell of the dummy. To create a perfectly fitting "Charles James Fit," the book contains a pattern for movable arms working with the "Sarah Dress Form," as well as a fitting "Charles James Shoulder Shell." Both variants can be used alternately according to your design project. You can use a standard dress form stand you might already have in your studio. All you need is passion and time, the tools and materials of your trade, as well as some affordable materials from a hardware store.

Our model Sarah is 30 years old, she is athletic, and a tall size 8. Sarah's measurements on our dress form are:

HEIGHT:
5 ¾ feet (179 cm); armhole depth, ½ inch (1.5 cm) ease included, 9 ½ inches (24 cm); nape to waist 16 ½ inches (41.5 cm); center back length 25 ¼ inches (64 cm).

WIDTHS:
Bust width 33 ¾ inches (86 cm); waist width 28 ½ inches (72 cm); hip width 39 ½ inches (100 cm).

ADDITIONAL MEASUREMENTS:
Arm length 25 inches (63.5 cm); shoulder to apex 9 ¾ inches (25 cm); neck width 15 inches (38 cm); shoulder without top shaping 4 inches (10 cm).

Decide about the form of the bust, braless or with bra, according to your style. If your model is wearing a bra, she must wear the same one in all stages of developments for the sloper and the casing. Of course, these decisions exert a great deal of influence on your fit as well as on the appearance of your future designs.



**TOOLS AND SUPPLIES—
HOW TO PREPARE**

All you need is a muse with whom you like to work to create your designs, passion, time, regular sewing equipment, and some materials from a hardware store.

THE EQUIPMENT PART 1

MATERIALS FROM THE SEWING ROOM

- 1 Dressmaker's ruler
- 2 Curved ruler
- 3 Sharp scissors
- 4 Tape measure
- 5 Tracing wheel
- 6 X-Acto knife or small utility knife
- 7 Straight pins
- 8 Needle and thread
- 9 Muslin (1½ yards | 140 cm per fitting)
- 10 White or black twill fabric with a small amount of Lycra (1½ yard | 140 cm) – additional amount for arms (30 inches | 76 cm)
- 11 Low-loft polyester batting (1½ yard | 140 cm)
- 12 Tracing paper
- 13 ¼ inch | 2 cm white twill tape; ¼ inch | 5 mm black twill tape (about 8 yards | 7 m each) and 3 hooks and eyes
- 14 ¼ inch | 3 mm black chart tape
- 15 Pencil and marker

MATERIALS FROM THE HARDWARE STORE

- 16 ¾ inch | 2 cm masking tape (1 roll)
- 17 2 inch | 5 cm thin paintbrush
- 18 Sponge and container
- 19 ½ inch | 12 mm weather-stripping insulation foam (1 roll)
- 20 2 inch | 5 cm gummed kraft paper tape (1 large roll)
- 21 Dispersion adhesive (glue) for bonding paper (1 pot)
- 22 Construction foam (1 to 2 big gap insulating foam cans), plastic gloves and apron
- 23 Level
- 24 Plywood (18 x 18 inches | 45 x 45 cm) and a saw or jigsaw. Instead 2 layers of heavy stiff cardboard
- 25 Two slip-joint plates and wood screws and a drill and a screwdriver
- 26 Plumb bob
- 27 Small hammer
- 28 ½-inch nails with a flat head

EXTRAS

- 29 Hair dryer
- 30 Tight-fitting T-shirt and leggings or tights (not on this picture)
- 31 Paper tube from a roll of paper towels (not on this picture)

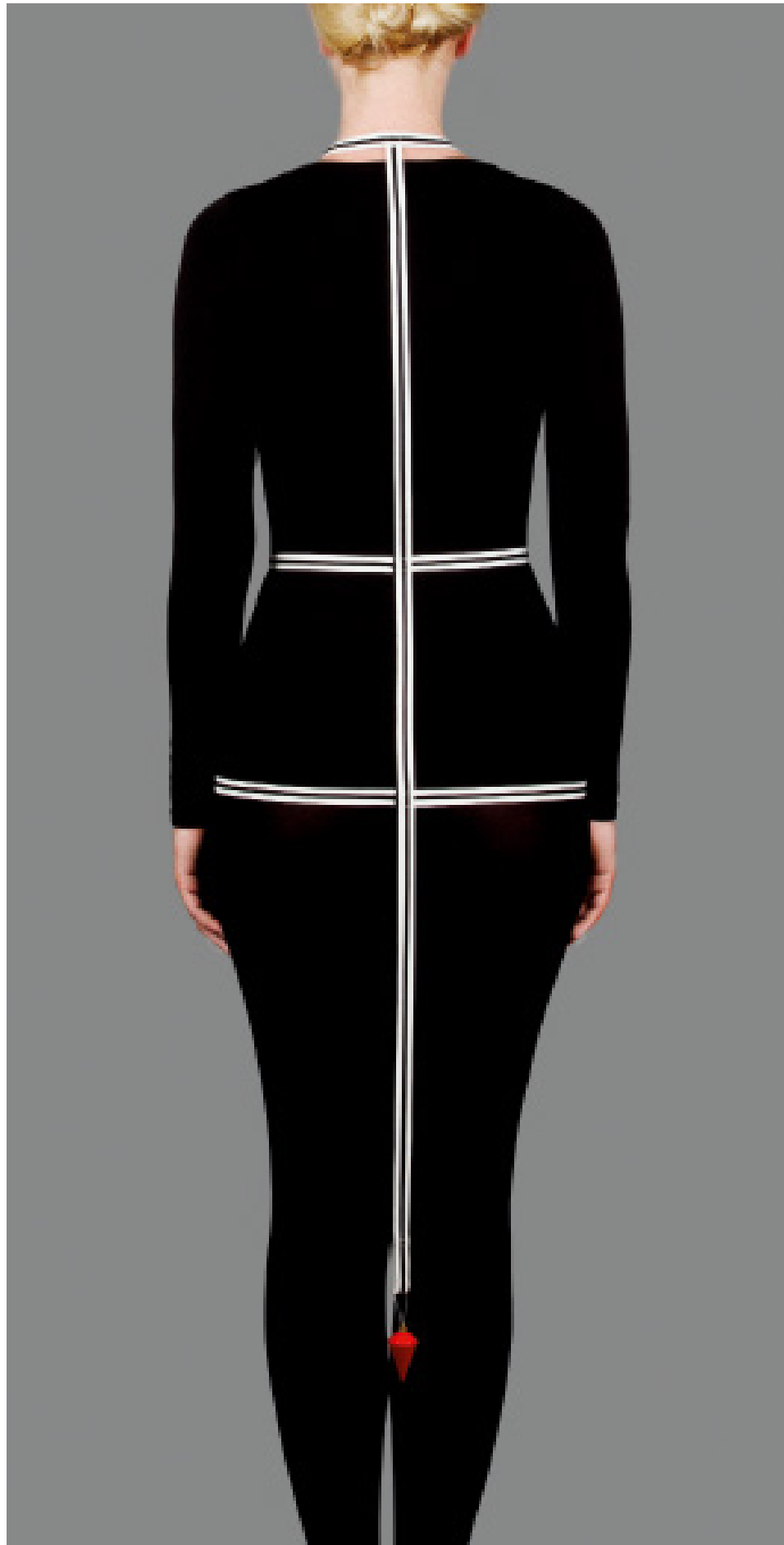




A CUSTOMIZED DRAPING HARNESS

**CREATE AN INDIVIDUAL SHAPE
FOR YOUR MUSE—
HOW TO MOLD THE SLOPER**

As the human body exists in countless different body shapes, it is highly recommended to drape the first layer for your individual dress form directly on the body of your muse. A customized harness with the basic body measurements is necessary to mold this muslin on the model. The fit of the sloper will be more precise and the process will be a lot faster than preparing with a drafted pattern.



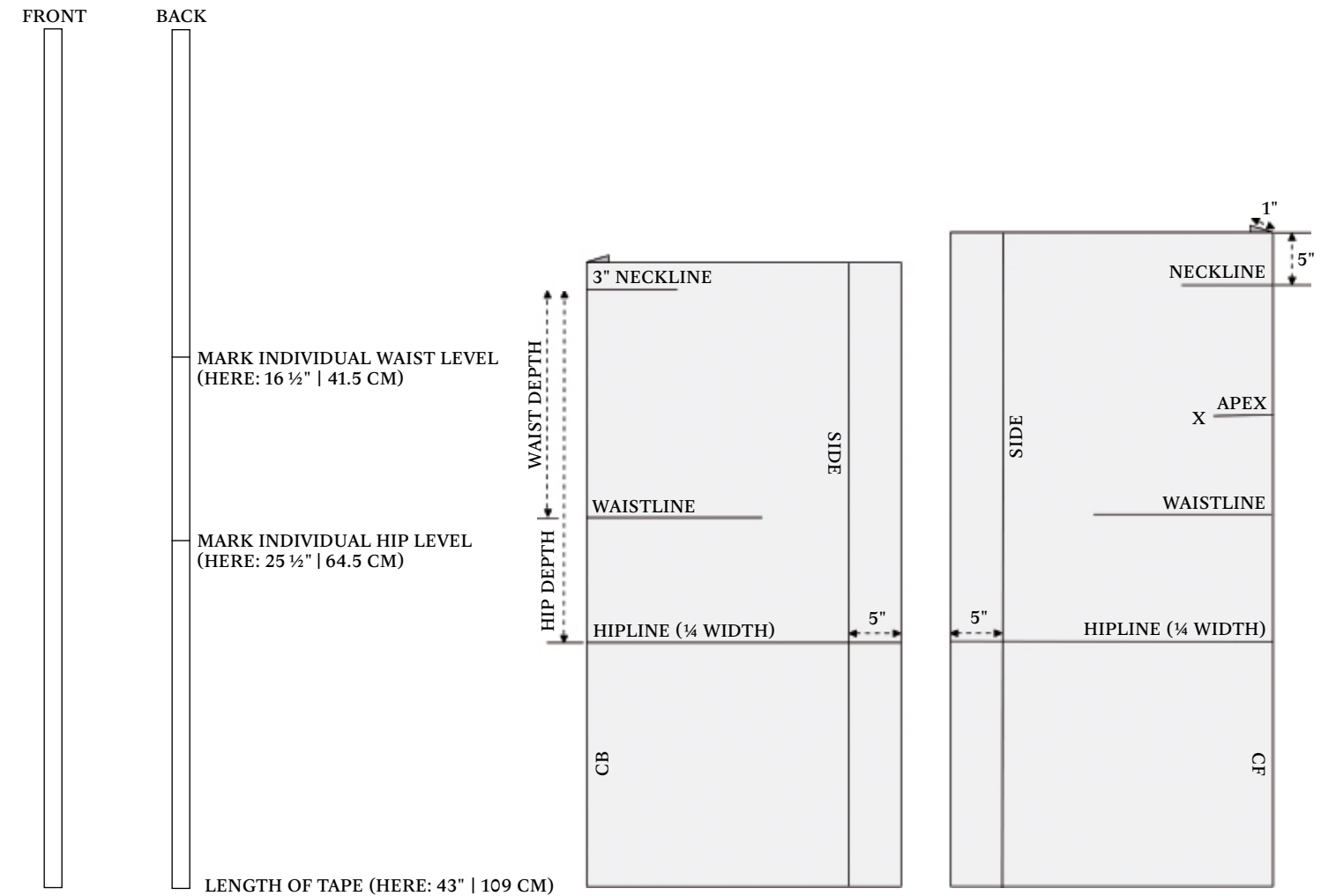
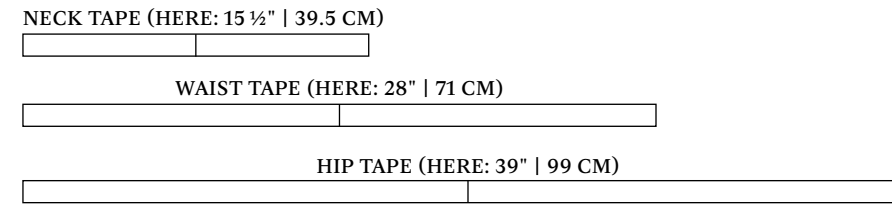
PREPARING THE DRAPING HARNESS

For the following steps, the ¾ inch (2 cm) white twill tape, ¼ inch (5 mm) black twill tape (about 8 yards (7 m each)), 3 hooks and eyes, and the plumb bob are needed. Cut the ¾ inch (2 cm) white twill tape and ¼ inch (5 mm) black twill tape according to the measurements of center front and center back length, neck, waist, and hip circumference. The front and back tapes should be knee length in order to add the plumb which will keep the tapes vertical. For all other tapes you need seam allowance for the closures.

Stitch the black tape in the center of the white one. The wider white tapes permit space to pin the muslin, while the black tapes allow you to work precisely on the center of the measured lines.

The next step is to form the neck tape with an iron into a circular shape. Take the measurement from one shoulder side to center front and center back and pin the center front and center back, tapes in place. Put the half-finished tool on the model and start at center back by pinning the waist and hip tapes to the corresponding levels. The model is wearing a T-shirt and tights.

Take the harness off and sew the tapes in place. Then sew on a hook and eye for closure on the open shoulder side of the neck tape. Finally, sew hooks and eyes at center back for waist and hip tapes to complete the draping harness.



PREPARING THE MUSLIN

Prepare the muslin panels for the front and back as shown in the drawing to the right. Please don't use the selvage, and square the muslin carefully. Add 2 inches (5 cm) extra height to the shoulder neck point and 5 inches (12 cm) extra width on each panel. Mark the following lines according to the measurements of the individual draping harness on the muslin: at center front and center back, 1 inch (2.5 cm) and fold in for pinning. Next, mark the apex, the ¼ waist and the hip line to prepare the princess seam line. Beginning at the center back neck point, add the shoulder blade level (¼ of the distance between the neck line to waist line measurement) and the armhole depth (¼ of the bust circumference + 4 inches (10.5 cm)).



DRAPING THE MUSLIN SLOPER

Shown in the left image: The model is wearing a T-shirt and tights, creating a smooth surface for the fabric to lie against. Start the process by pinning the fabric on the harness at the center front neck point and line it up on the center front all the way down. Anchor the waist and hiplines. Pin the neckline and cut away the fabric piece by piece, leaving enough seam allowance, and then clip to conform to the shape of the neck. Drape the bust dart to the center of the shoulder width. For an exact duplicate of the model's body, a tight fit is necessary, so the whole sheath must be molded without any ease.

Center and right images: Pin the cross marks on the princess seam line at the $\frac{1}{8}$ waist and the hip levels. Smooth the muslin to the side, maintaining the horizontal line of the hip. Pin it on the side seam level, keeping a smooth column to the top of the shoulder. Clip a rough armhole, not too close to the arm pivot point so that it lies flat on the body without wrinkles. Start molding the waist dart and complete the princess seam line before you cut off the excess fabric on the side seam. This will allow shifting more or less muslin into the dart according to the body shape. Make sure to maintain a straight center front line. Mark the estimated side seam.



Image on the top left: Start pinning the fabric on the harness at the center back neck point and line it up on the center back all the way down. Anchor across the shoulder, the waist, and hiplines. Pin the neckline and clip the excess fabric to conform to the shape of the back neck. Drape the short shoulder dart matching the front dart and temporarily pin the shoulder seam together.

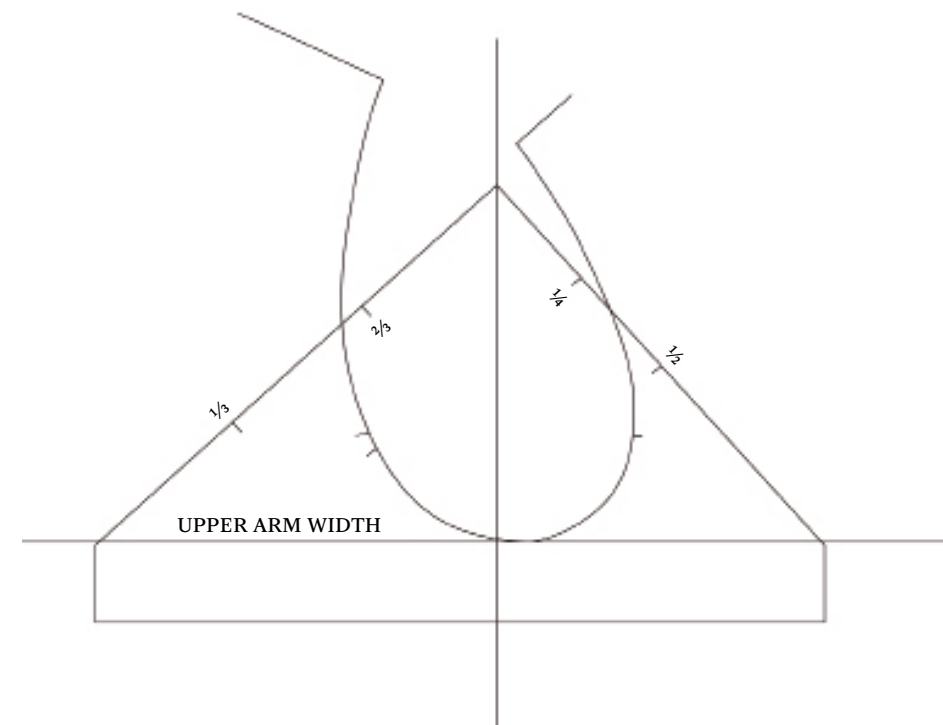
Image on the top right: Pin the cross marks on the princess seam line at the $\frac{1}{8}$ waist and the hip levels. Smooth the muslin to the side, maintaining the horizontal line of the hip. Make sure to maintain a straight center back line. Pin it on the side seam level and clip at the waistline level to relax the fabric.

Take care not to cut too far into the fabric. Start molding the waist dart and complete the princess seam line before you cut off the excess fabric on the side seam. Clip and mark a rough armhole. Join the side seams and shoulder seams.

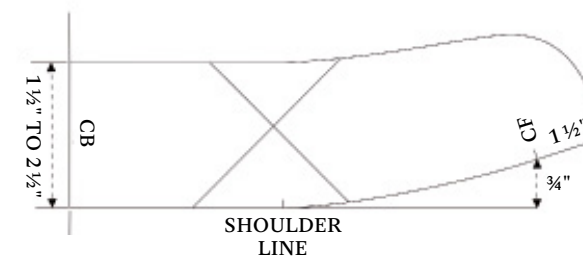
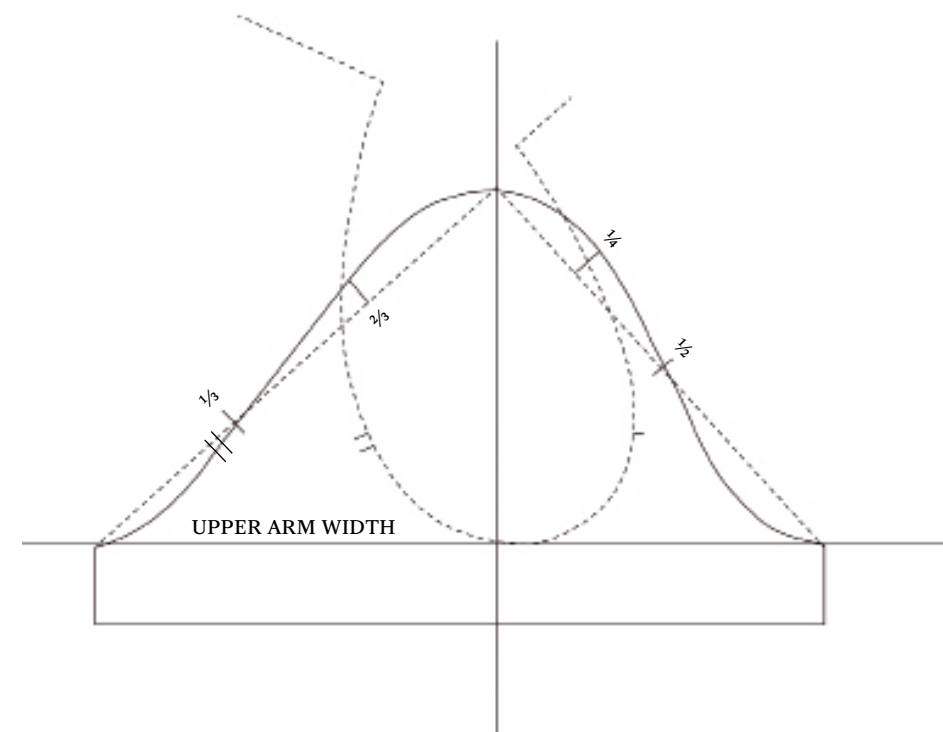
Image on the left: Remove the harness with the attached draping off the model, then mark all seams and darts before removing the pins. True all lines and connect the darts to form the princess seam lines, and add the vertical grain lines to the side panels. To check the fit, trace and cut the opposite side, sew it together, and try it on without the T-shirt and tights. If necessary, adjust darts, armhole, and neckline.



BACK AND FRONT PART OF THE SLOPER



CONSTRUCTION FOR SLEEVE



CONSTRUCTION FOR STAND-UP COLLAR

DRAFTING FOR A SHORT ONE-PIECE SLEEVE

Measure the upper arm width at the fullest part of the upper arm (biceps) and draw a horizontal line and mark that length. For a tight-fitting sleeve, do not add ease. Measure the armhole circumference on the pattern from the shoulder point to the side seams on the back and front panel. Using a compass, mark the length of front and back part of the armhole to get the height of the sleeve cap. From this point, draw a perpendicular line to the biceps line and add 2 to 3 inches (5 to 7.5 cm) for the finished sleeve length. Draw a parallel line for the seam line and connect to the side seams. Draw diagonal guidelines from the cap height to the end points of the biceps measurements, back and front. Divide the back guideline into quarters, and then divide the front guideline into thirds. To create the curve for the sleeve cap, copy the back and front armhole curve of the pattern from side seam and adjust it to $\frac{1}{2}$ of the back and about $\frac{1}{3}$ of the front. Additional points for the upper cap will help to draw a smooth finished curve for the sleeve. Finally, measure the total cap and adjust it to the measurement to the armhole circumference. Now the muslin can be completed, leaving an opening on the center back.

DRAFTING FOR STAND-UP COLLAR

Take the back and front neckhole measurements from your draped sloper. Make a decision for the height of your stand-up collar, which will become the neck of the dress form. Depending on the proportion of the model, it can be from $1\frac{1}{2}$ inches (4.5 cm) to $2\frac{1}{2}$ inches (6.5 cm). The muslin of the collar will be cut on the bias, so it can be stretched, conforming to the shape of the natural neck. It doesn't need seam allowance and will be stitched on top of the final neckhole. As shown in the illustration, start drafting the pattern piece by drawing a perpendicular line. This starting point is the nape. Mark the half back and the half front neck length, minus $\frac{1}{4}$ inch (7 mm) each. To create the center front of the collar, make a $\frac{3}{4}$ inch (2 cm) cross mark at a 90 degree angle. From here, draw a smooth curved line from the shoulder mark of the collar with a $1\frac{1}{2}$ -inch (4.5 cm) extension at the center front. Mark the height of the collar at the nape and draft the upper edge to complete the collar.



THE SLOPER FOR THE SARAH DRESS FORM

**BUILD THE CASING FOR YOUR
DRESS FORM—A GUIDELINE FOR
MAPPING YOUR MUSE**

For this step, you need: Sharp scissors, needle and thread, the gummed kraft paper tape, sponge and container, the hair dryer, and the marker. To start with the process of the casing, prepare everything in advance, so that the model does not have to stand rigid for too long. There is no possibility to make breaks. Two to three people should work together to speed up the working process: one to moisten the strips of gummed paper, one to apply them, and one to help wherever it's needed.



FINAL PREPARATIONS

Put the sloper on the model and close it with hand stitching on the center back, add the collar as in the fitting before. This will allow the model to breathe during the process. The neck will be the last part to be molded. The model should stand still; if she twists about or moves head or arms, she may stretch the moist paper or pull the strips out of place. The actual pasting on of the strips should not take more than 75 minutes. Be aware that the strips should be moistened enough to soften the glue thoroughly, but should not be too moist. Lap the strips carefully where the ends meet, as on the shoulder and on the waistline. Excessive overlapping at these places tends to throw the form out

of proportion; insufficient lapping tends to weaken it. The important consideration is to have the paper fit smoothly, without wrinkles, and to have the dress form of uniform thickness throughout. The lines of the figure will to some extent govern the way the paper is applied.

Cut the gummed kraft paper tape in strips of various lengths for the different body sections; 24 inches (60 cm), 12 inches (30 cm), 9 inches (22 cm), and narrower 1-inch (12 mm) pieces in 4½ inches (11 cm).



THE STEP-BY-STEP PROCESS

Now start moistening the paper strips and cover the front with diagonal placement of the strips step by step. This helps to get a smoother surface. From the waist, paste the strips going up around the bust to the shoulders and downwards around the hip, continuing to the back.



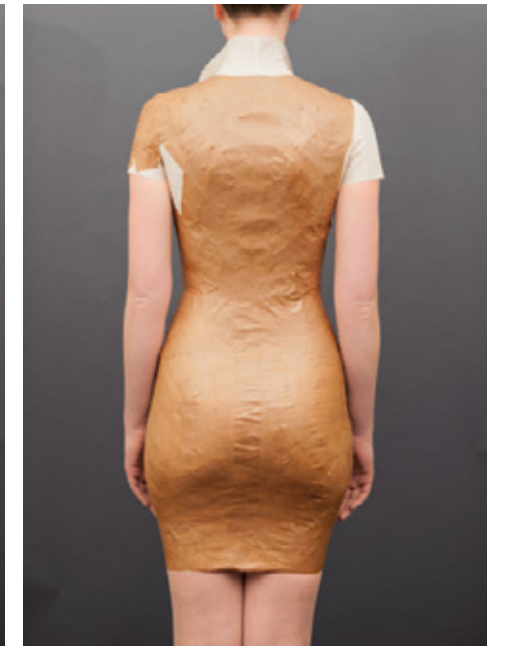
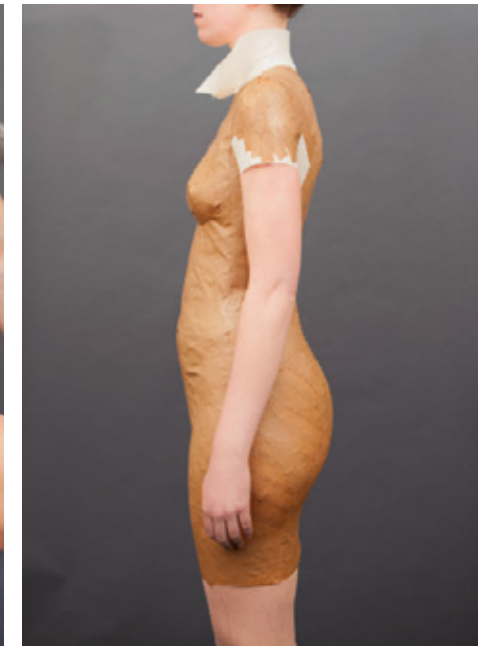
HOW TO CONTINUE

Complete the torso of the back in the same manner as the front. Paste shorter strips above and below the bust and around the shoulders. To stabilize the construction, use longer vertical strips at center front and center back. For the second layer, repeat the process. Horizontal strips may be used on the underbust line for a precisely molded silhouette.

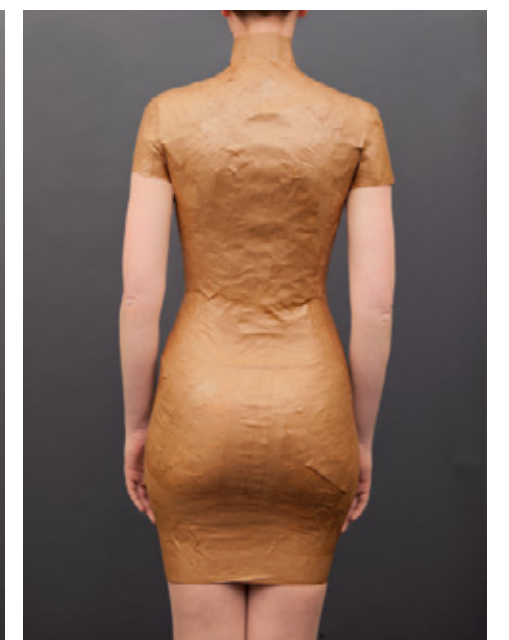
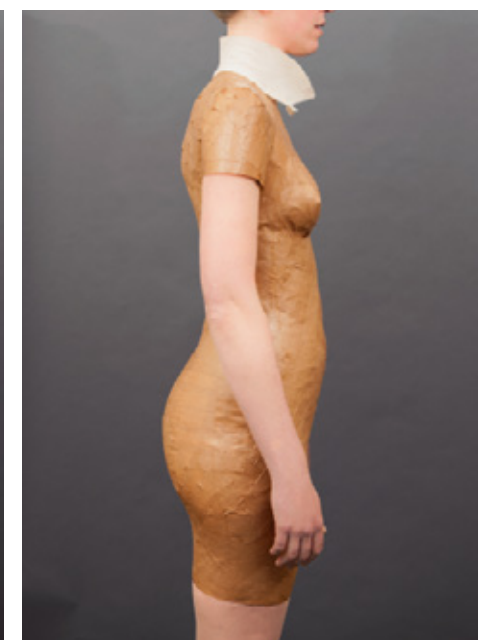


FINAL STEPS FOR THE CASING

The paper casing may still be wet, so use the hair dryer to evaporate any moisture. The pose must be held while the sleeve is being made and until it becomes partially dry. To complete the form, work with shorter strips on the underarm sections and the sleeve parts. Fill in the sleeve with strips passing around the arm and lapping on the upper side. Repeat this part of the procedure. Then close the muslin collar at center front. Place a few strips snugly around the neck, pasting firmly to the collar of the sloper, overlapping the ends of the strips around the neckline.

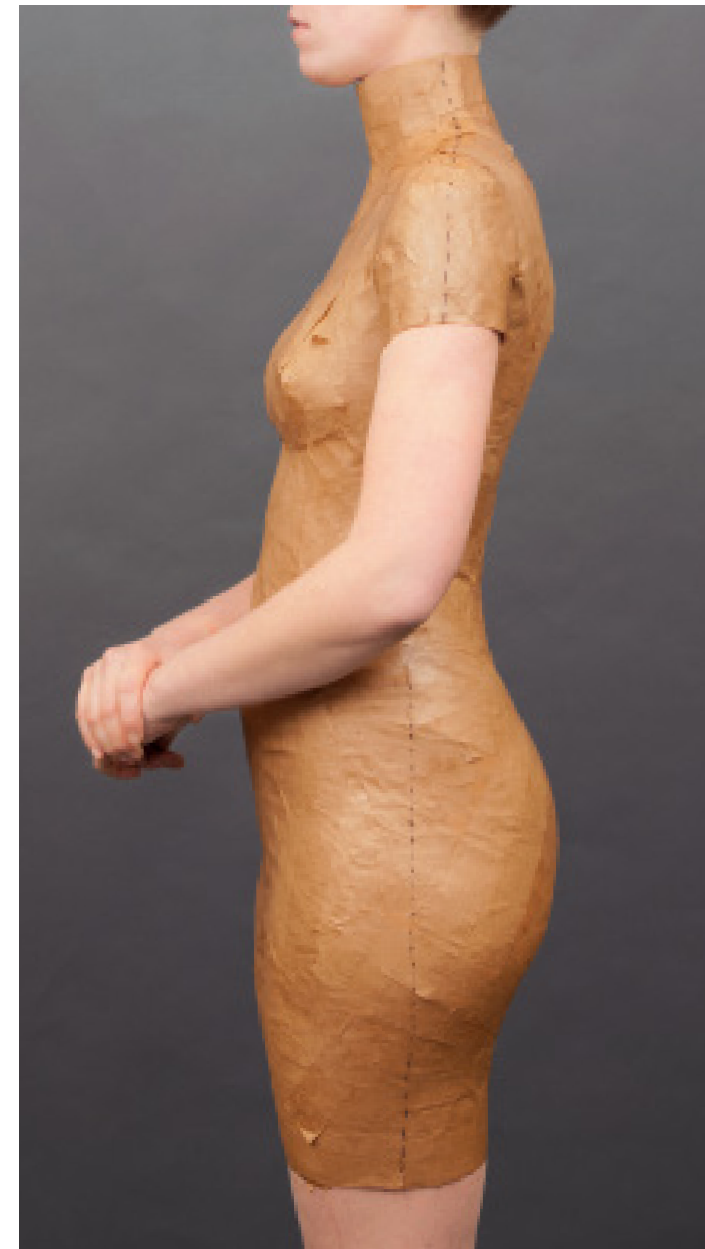


Finally, cover this whole area carefully with a second layer. Depending on the quality of the paper tape, at this stage the casing might still be flexible, and a third layer will be necessary for sufficient firmness. The casing must be almost dry and firm before it can be removed from the body of the model—otherwise it tends to wrinkle.





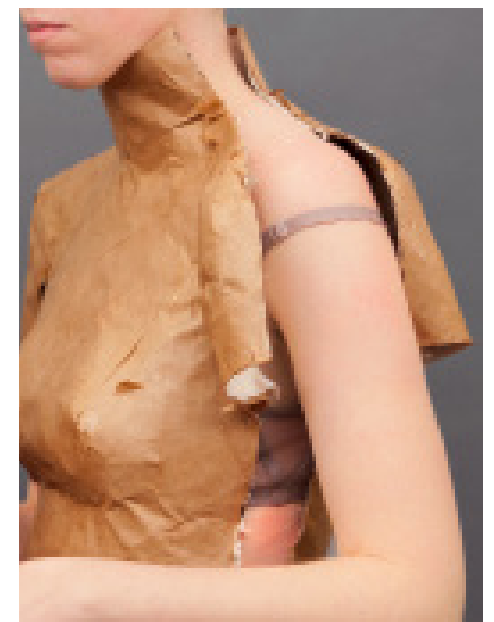
THE FINISHED CASING



MARKING AND REMOVING

Draw a line with the marker where a shoulder seam would be, extending the line into the neckband and to the edge of the sleeve. Draw a second line on the position of the side seam from under the arm to the bottom edge of the casing.

Using a pair of strong and sharp scissors, cut on the line from the sleeve edge to the neck and from the bottom edge upwards to the underarm. The underarm part of the sleeve should also be cut apart. Use two to three fingers on the other hand, insert them under the shell as a guide, in order to prevent injuring your model or cutting her underpants and the straps of her bra. Two people will be needed to put the form together. This should be done as quickly as possible. If the opened shell is allowed to dry out completely, it will be much harder to join back together. Furthermore, the true contour of the hips is likely to be lost. Cut several 2½-inch (ca. 6 cm) strips, moisten them one after another, and paste them along the cut edges. The strips are placed on the inside and the outside of the form. Now the shell needs to dry out completely. If necessary, use the dryer again. Hang it up unencumbered overnight, using a short piece of wood or a pencil with a string attached.

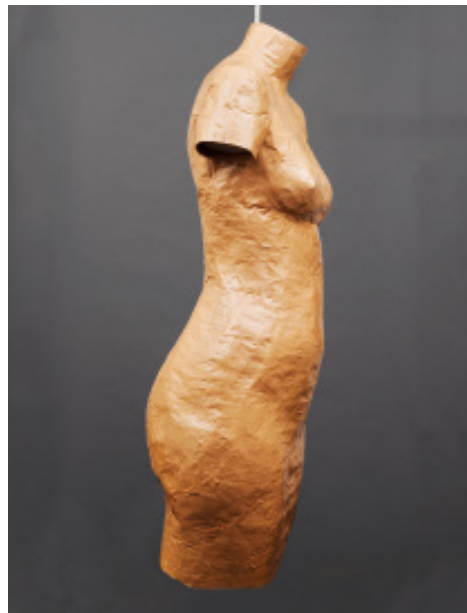




THE DUPLICATE OF THE MODEL

**FROM THE CASING TO THE SCULPTURED
DRESS FORM**

This section demonstrates the process whereby the paper duplicate of the muse transforms the shell into a perfectly customized dress form for draping and creating new designs.



MARKING THE SHELL

Now the shell is firm enough to proceed to the next step, in which you need to assemble: the plumb bob, the level, the dressmaker's ruler, the black chart tape, a marker, sharp scissors or a small utility knife, and again some strips of the gummed kraft paper tape.

To prepare the placement of the padded undercover and the final twill fabric cover for the dress form, it is necessary to mark the main body measurement lines on the form. Two people are needed to balance the shell accurately. Start the body grid by marking the center of the hollow at the front neck and pin the plumb bob. To balance the center front line, one person needs to hold and move the shell; the other has to visually align it vertically. Draw the center front line from the neck to the bottom edge with evenly spaced marks, following the side of the plumb bob string. Attach the black chart tape onto the center front mark. Determine the waistline position at the center front and draw a mark. Use the level to indicate the waistline with marks on the front. Repeat these procedures with the back, starting at the nape. Now the black chart tape can be placed around the waistline. Mark a line between the apexes, the hip level, the side seams, the neckline, and the armhole circumference. Place the chart tape on all of them. Finally, mark and apply the chart tape to the leveled bottom edge and the top edge of the neck.

THE BODY SHELL

To make the structure of the dress form waterproof and sturdy, apply the dispersion glue with the paintbrush all over the casing. Take care not to brush it on too thickly to prevent runs in the glue. Wait until it is completely dry.

REMOVAL OF THE ARM CAPS

Use the utility knife or the jigsaw to cut off the arm caps along the marked armhole circumference, the marked bottom edge, and the top edge of the neck. Keep the arm caps to prepare the dress form arms (1).

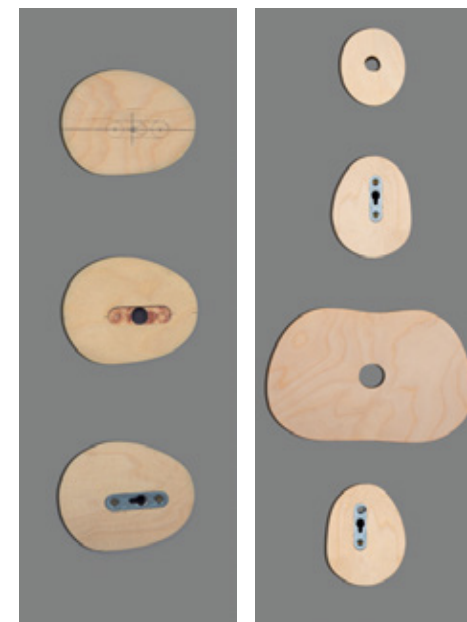


THE PREPARATION OF THE DRESS FORM TEMPLATES

Using a piece of muslin or paper, transfer the shape of both armholes to the plywood or two layers of heavy, stiff card-board. Mark which is the right and the left, as they are never 100% identical. Repeat the same procedure for the neck template. To create the base template, place the shell on the wood or card-board and mark around the edge.

To attach the mounting for the arms, first mark the center of the arm templates, then drill a hole through the templates at these points. Place the hole of the slip plates directly over the hole of the templates and scoop out this position to the thickness of the slip plates. Insert the plates and anchor them with the screws.

For the neck and base templates, drill a hole, large enough to go over the pole of the dress form stand easily. All four templates should fit snugly into the corresponding openings.



THE STEP-BY-STEP FOR ARM TEMPLATES

THE COMPLETED TEMPLATES

FILLING THE INSIDE CAVITY

This step will need your full attention: The construction foam will be sprayed inside the dress form shell. This process is not removable. For spraying the construction foam inside the shell, put on plastic gloves and an apron. As there are a lot of different foam qualities, it would be helpful to test the foam before spraying it into the shell.



[1] For the first step, you need the paper tape again to finish the raw edges of all openings. Moisten short strips and paste one layer snugly around the edges, from the paper outside to the muslin inside. On narrow curved parts (neck-hole and armholes), clip the tape edge that goes to the inside to make it lay smooth and flat. Wait until the paper tape is completely dry.



[2] Press two rows of the weather-striping insulation foam around the entire inside bottom opening. This will prevent the foam from filling in the position required by the template to fit snugly inside the shell.



[3] Close the neck and arm templates during this application and hardening of the foam. It is useful to cover the templates with regular copy paper to prevent the foam from sticking to the templates. Insert them and hold them in place with the masking tape.



[4] Start spraying from the top parts and go down slowly and carefully. Leave an opening for the dress form stand at the center of the shell. If the foam gets too voluminous in the neck part, use a paper tube from a roll of paper towels to make room for the stand hole. If needed, take out the neck template to insert the tube.



[5] Through the bottom opening, you can control the expanding of the foam. As some construction foams are humid, take care that the dress form shell doesn't soften and become deformed during this procedure



SMOOTHING THE SURFACE

Use small pulled pieces of the batting and paste them on the depressed spots of the paper surface.



THE PADDED UNDERCOVER

Cut the front and back panels in polyester batting from the original pattern of the muslin. Leave enough seam allowance. Use straight pins to assemble the batting to the marked main body measurement lines on the dress form. Finally, close all seams of the undercover layer with hand-sewn catch-stitching.

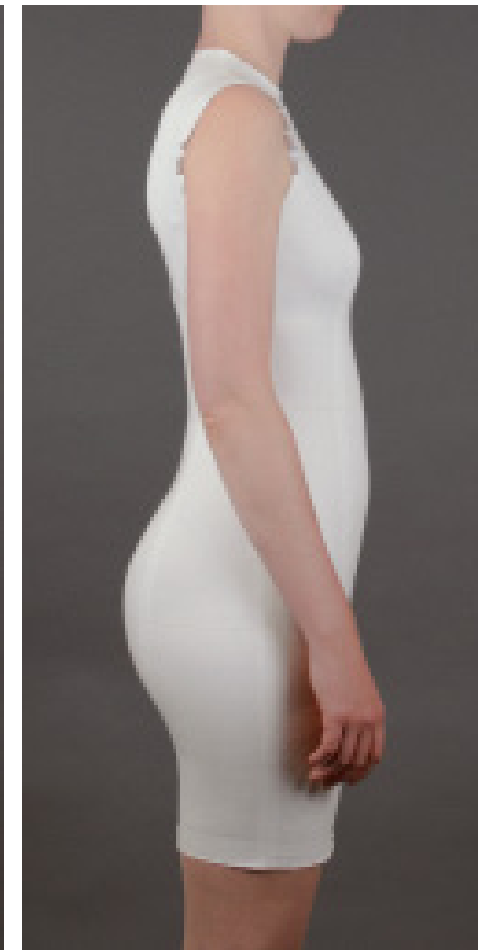
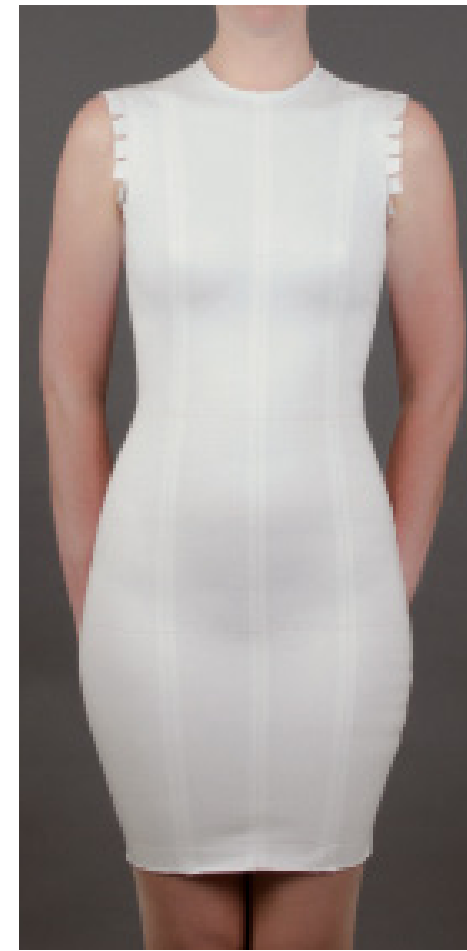


THE DRESS FORM COVER

Cut the front and back panels in white or black twill fabric from the original pattern of the muslin. Leave enough seam allowance. Machine stitch the center front, center back, and one of the side seams. The other side seam should be pinned with the seam allowance down. Pin the front panel in place using the center front line on the dress form. The pins can be pushed all the way into the shell. Repeat this procedure for the center back and side panels.

Fold the seam allowance of the princess seams on the four side panels one after another, and with pins close together on the seam lines of the front and back center panels.

Place straight pins on all seams about 1 inch (2.5 cm) apart. At this point, you could make small adjustments where the body is not symmetrical, as in the bust and hip areas.



THE PERFECT FIT

To confirm the quality of your custom-made dress form, remove the cover. Transfer the marked princess seam lines, if corrections were made, and take out all pins and machine-sew the princess seams together. Try the cover on your muse. Close the side seam by pinning it together. Check if everything is correct.





FINAL STEPS

Remove the cover, close the open shoulder seam and sew on the neck part. Fold in the seam allowances of the open side seam. In order to place the cover on the dress form, it may be good to get help from a second person: force the center front and center back seams by stretching the cover from the closed side. Anchor the side seam, center front and backseams of the cover to the dress form with pins. If necessary, anchor also the princess seam lines, then the neckline and the shoulder seams.



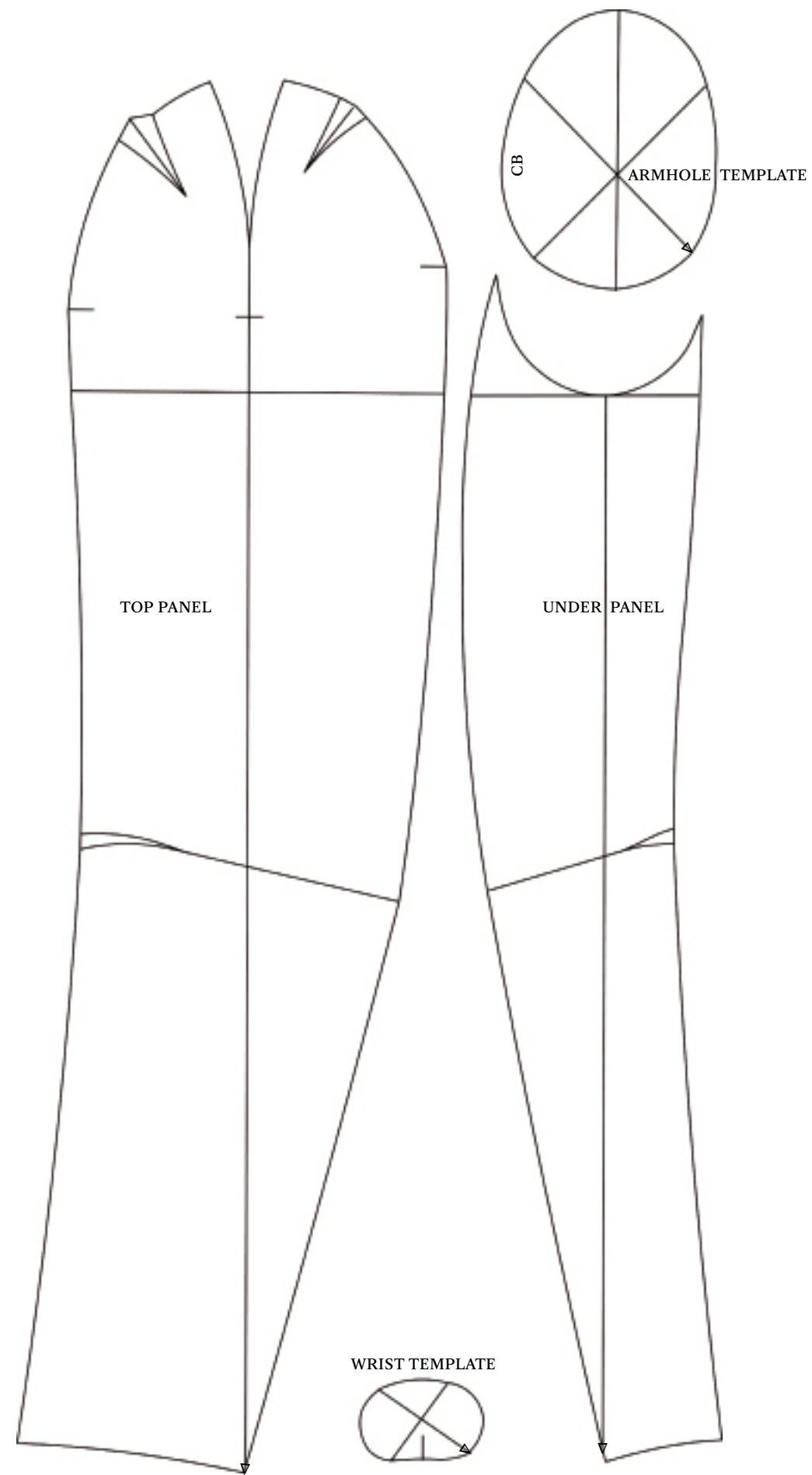
Close the open side seam with a draw-stitch. Fold the seam allowances in and, using a short needle, anchor the thread on one side. Take a short stitch about 1/8 inch (0.3 cm) long in one folded edge of the fabric, then take a stitch in the other folded edge. Continue alternating between the edges. Draw the thread tight so that both folded edges come close together and the stitches are evenly spaced and parallel to each other, making the finished seam look as if it is machine-stitched.

Fold in the open edges of the cover to the inside of the template openings. Hold them in place with pins. Set in the templates and attach with the short nails.



THE DRESS FORM

Finally, you are ready to put the dress form on the stand and apply the chart tape on the basic body measurement lines. You have the choice of assembling the Charles James Shoulder Shell. (1)



THE PATTERN FOR THE DRESS FORM ARMS

**ASSEMBLING PERFECT ARMS
FOR YOUR DRESS FORM**

In this section, the dress form will be complemented by crafting the arms. The original arm pattern for the Sarah Dress Form is included in this book. With our innovative arm templates, it is possible to move the arms back and forward. During the process of draping, it is easy to remove and replace them. We suggest constructing both arms.



MATERIALS FROM THE SEWING ROOM

- 1 Sharp scissors
- 2 Curved ruler
- 3 Dressmaker's ruler
- 4 Heavy Pelmet interfacing (18 x 18 inches | 45 x 45 cm)
- 5 Stitch witchery (18 x 18 inches | 45 x 45 cm)
- 6 Pellon lightweight interfacing (30 inches | 76 cm)
- 7 White or black twill fabric with a small amount of Lycra (30 inches | 76 cm, the same as for the body of the dress form)
- 8 Thin batiste fabric (18 x 18 inches | 45 x 45 cm)
- 9 Tape measure
- 10 Needle and thread
- 11 Pen
- 12 Chart tape
- 13 3/4 inch | 2 cm twill tape (left over from page 356, molding the sloper)
- 14 Straight pins

MATERIALS FROM THE HARDWARE STORE

- 15 Stiff cardboard (18 x 18 inches | 45 cm x 45 cm)
- 16 Two 3/4 inch bolts with 3/4 inch (round or square) washers and cap nuts

EXTRAS

- 17 Kapok filler

PREPARATION OF YOUR ARM PATTERN

To create the arms, please adjust the pattern (included in this book) to your model's measurements. To form a perfect arm head, mold the shape of your model's arm cap and adjust to the darts of the pattern.

ARMHOLE HEIGHT AND CIRCUMFERENCE: Please use arm plate of your finished dress form.

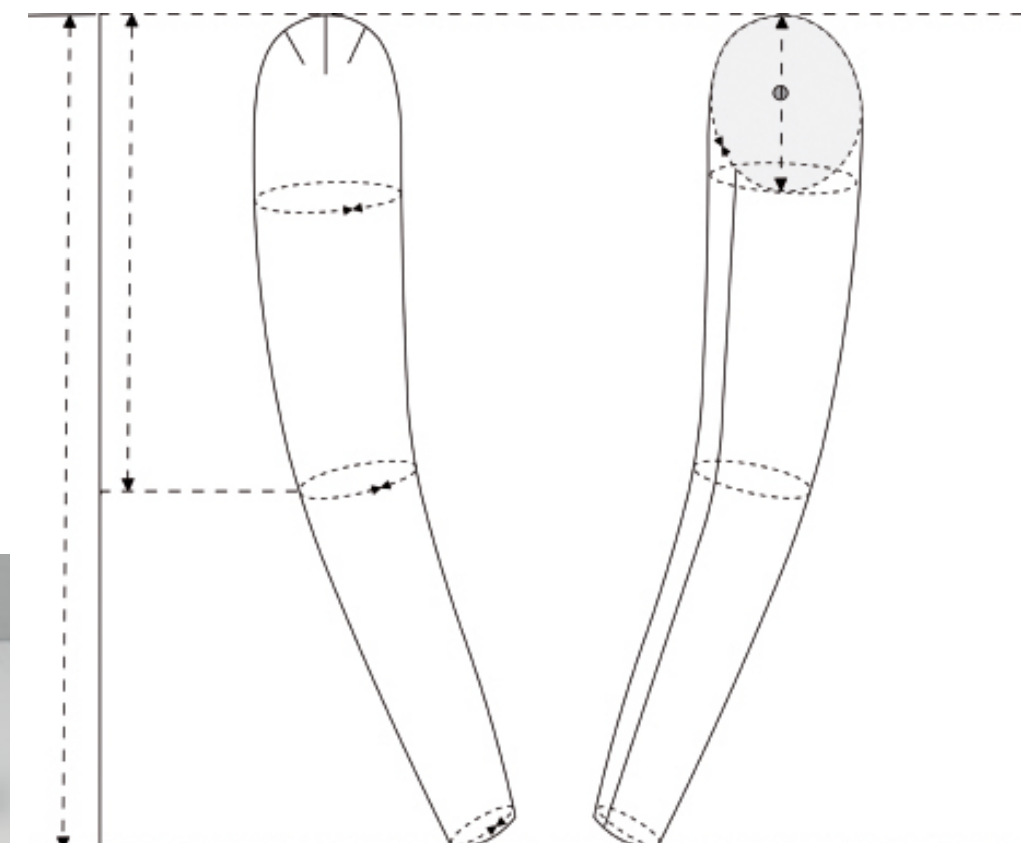
ARM LENGTH: Measure from the shoulder bone across a slightly bent elbow to the wrist bone.

UPPER ARM LENGTH: Measure from the shoulder bone to the elbow.

UPPER ARM WIDTH: Measure the fullest part of the upper arm (biceps).

ELBOW WIDTH: Measure around the thickest part of the elbow, with the arm in a slightly bent and relaxed position.

WRIST CIRCUMFERENCE: Measure around the wrist.



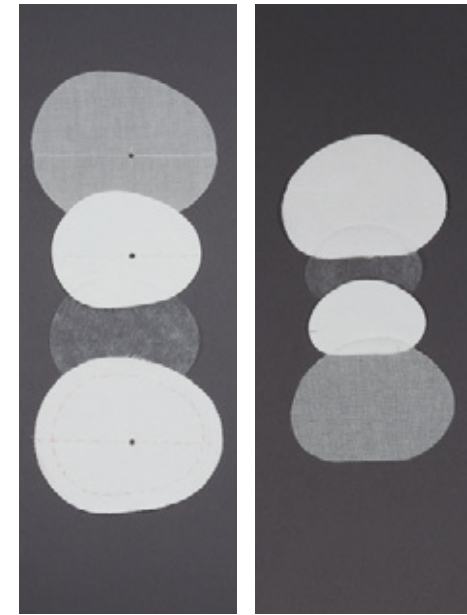


PREPARATION OF THE COVERS FOR THE ARMS

Cut the pattern of the upper and under-arm in the twill fabric with seam allowance for the outside covers. Machine-stitch on the seam lines of the armhole circumference to stabilize the bias. Mark the vertical grainlines.

THE "PILLOWS"

Close the darts and the seams of both covers and iron the seam allowances. Compare the fit with the shape of the arm cap. Make adjustments if necessary.

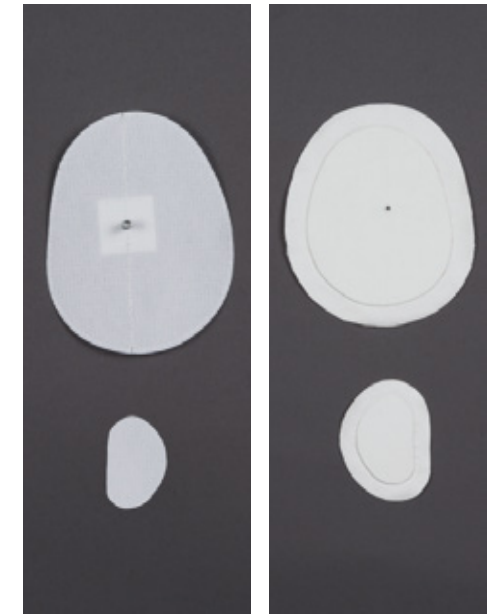


STEP I

Cut the armhole and wrist templates in interfacing, heavy Pelmet interfacing, and stiff cardboard, without seam allowance. Cut the templates in thin batiste fabric, the twill fabric, and the stitch witchery, with seam allowance. Mark the position for the screw holes in all layers of the arm templates.



PREPARATION OF THE TEMPLATES



STEP II

Inner-cover armhole templates, left: put washers and screws on the Pelmet interfacing templates. Outside-cover armhole and wrist templates, right: first fuse the twill fabric onto the stiff cardboards with the stitch witchery. Place the thin batiste fabric under the cardboards and machine-stitch around them on the marked seam lines.

STEP III

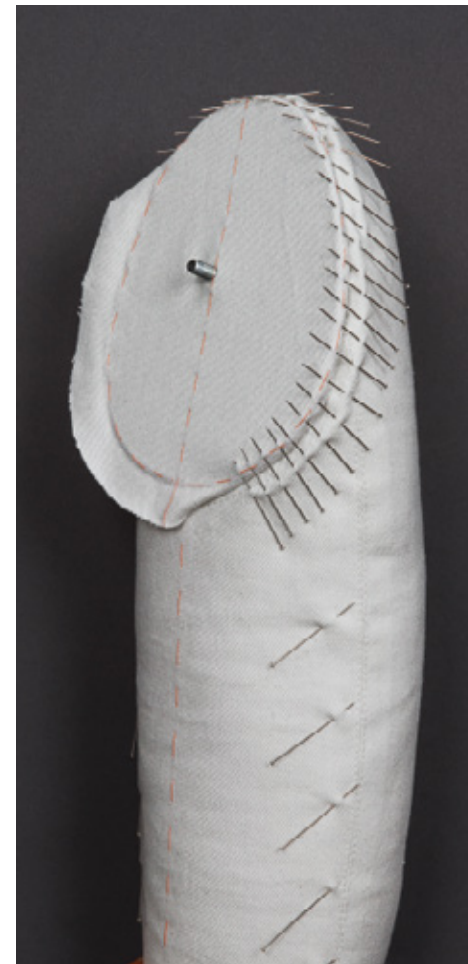
Stitch the twill tape to the centers of the inner-cover Pelmet wrist templates. Stitch wrist templates in position at the bottom of the inner-cover arm pillows. This will help to pull the outside covers over the inside covers. They will be removed after this procedure. Fill them with the kapok and stuff tightly.



Put the templates in place and pin closely. If the arm caps are too soft, stuff more kapok in until firm. Stitch the templates onto the inner cover by hand.



VIEW OF THE UNDERSIDE OF THE INNER COVER
with pinned template and view of the finished upper side.



While turning the seam allowances to the inside, pin and stitch the twill templates for the armholes and wrists in place. Remove the twill tapes from the wrist templates.



VIEW OF THE FINISHED UNDERSIDE
of the inner cover with the arm template and screw.



The outside cover is pulled over the inside. Take care to perfectly align the seams of the inner and outer layers. Pin to hold them in place.

SETTING IN THE INNER ARMHOLE TEMPLATES



THE FINISHED ARMS

The cap nuts are attached and the chart tape is on the elbow lines.



THE FINISHED ARMS

The chart tape is placed on the upper arm length and the elbow lines.