

# *How to Make A Full Body Double (aka Dress Form)*



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# *Introduction*

Many dress forms are just the torso. The instructions here show how to add legs and arms to a Torso Form to create a Full Body Double. For garments that are going to include a hood, you can even use a styrofoam wig block to add the shape of a head.

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The materials you will need for adding legs and arms to a Torso Form are listed below. PVC pipe is described in these instructions as the central core of both legs, but you can substitute cardboard tubing.

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Have	Need	n/r	BASIC SUPPLIES
			Pattern Paper
			Gingham
			2- 32" x 40" Mat Boards
			2" Masking Tape
			1" or 3/4" Masking Tape
			8' of 1" PVC Pipe

Have	Need	n/r	BASIC PIPE STAND
			3/4" x 12" x 24" Plywood
			2 - 1/2" x 30-36" Iron pipe
			2 - 1/2" Floor flange
			8 - 3/4" Wood screws

# The Leg Form

The pattern for the leg portion of the Body Double can be created by tracing the reference lines from the front pattern of a Pants Sloper, including the Leg Center, Crotch Depth, Knee, and Floor lines. Additional reference lines are the Thigh, Calf, and Ankle.

The leg needs a central core so the form can be placed on and removed from a stand.

## Measurements for the Leg

To take these measurements, secure a ribbon to the end of the tape measure and secure this ribbon around the natural waist. Then with a second tape, measure the distance around the leg and record both the girth and length in the chart below.



Thigh

Knee

Calf

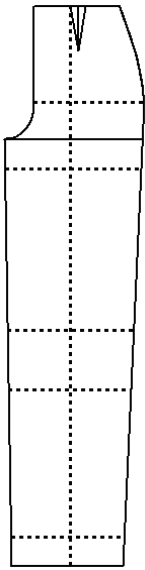
Ankle

Heel

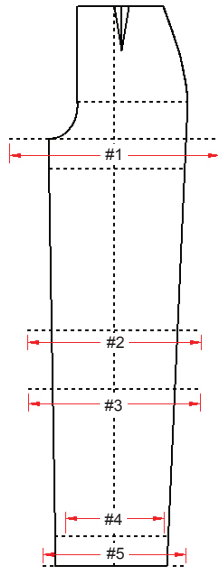
Thigh: (1)	Waist to Thigh: (6)
Knee: (2)	Waist to Knee: (7)
Calf: (3)	Waist to Calf: (8)
Ankle: (4)	Waist to Ankle: (9)
Heel: (5)	Waist to Floor: (10)

## The Leg Pattern

To draft a leg pattern, you may use the front leg from the pants sloper as a guide for the lengths, or draft the pattern by itself. The front pants pattern is for half the leg. The leg pattern is for the full leg circumference. Since the waist is the principle reference point, you need to draw the complete waist to floor length. When you cut the pattern from gingham for a trial fitting, don't go any higher than the Crotch Depth.

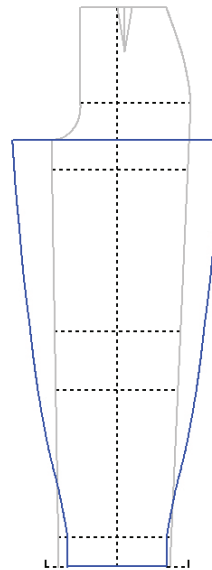


1. Use a copy of the front pants sloper to trace the Leg Center, Crotch Depth, Thigh, Knee, Calf, Ankle, and Floor lines.

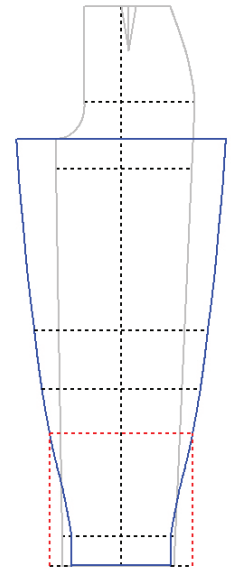


2. Use the chart below to mark 1/2 the dimensions on each side of the Leg Center line.

Thigh:	(1)	Ankle:	(4)
Knee:	(2)	Heel:	(5)
Calf:	(3)		



3. Draw in lines to connect the marks to create the seam at the back of the leg.

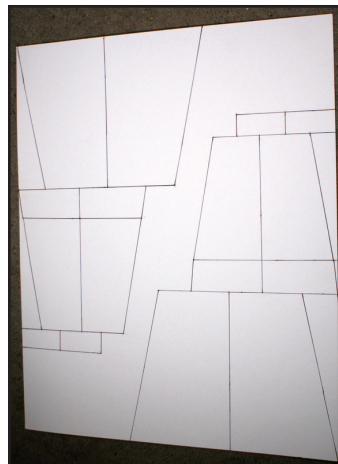


4. To determine how far the bottom of the leg needs to be left open, extend the heel width up the leg.

## Cutting the Leg

The pattern can now be transferred to mat board and cut out. The best way to shape the Leg Form is to divide the leg at the horizontal reference lines into Thigh, Knee, Calf, and Ankle sections.

1. Trace each section of the Leg Form onto the mat board. Keep the leg center line parallel to the edge of the mat board.
2. Cut out the mat board.



Traced Leg Patterns

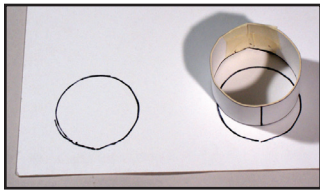


Cut Leg Form

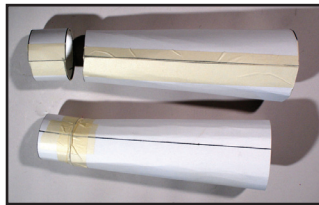
## Taping the Leg

Tape the leg starting with the ankle section. Work up to the thigh.

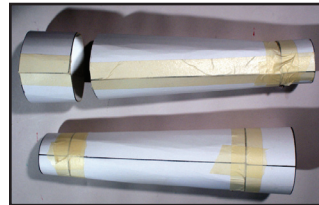
1. Roll the ankle section into a tube, then tape it closed.
2. On a separate piece of mat board, draw a circle that is a cross section of the ankle. This circle should be at least 1" (2.5 cm) from the edge of the mat board. This circle will become the bottom of the leg's core as described on page 6.
3. Roll the calf section into a tube, then tape it closed.
4. Matching the leg center lines and seams of the two sections, tape the ankle section to the calf.
5. Roll the knee section into a tube, then tape it closed.
6. Matching the leg center lines and seams of the two sections, tape the knee section to the calf.
7. Roll the thigh section into a tube, then tape it closed.
8. Matching the leg center lines and seams of the two sections, tape the thigh section to the knee.



Step 2



Steps 3 & 4



Steps 5 & 6

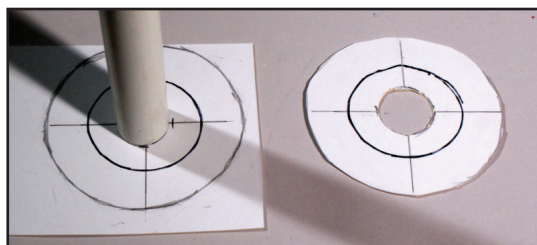


Steps 7 & 8

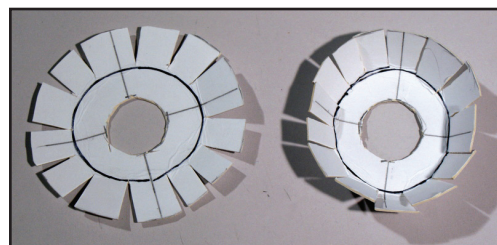
## The Bottom Leg Support

Tubing needs to be added to the leg so that the Body Double can be taken on and off a stand.

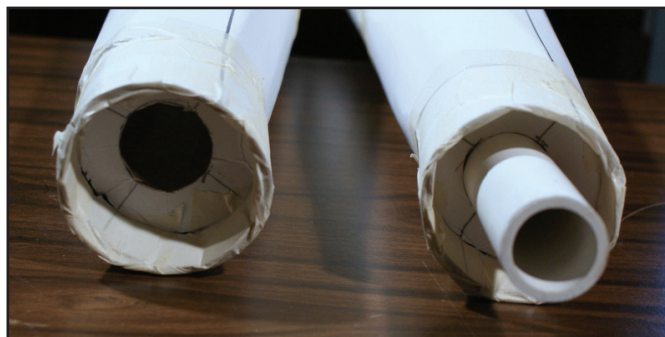
1. On the mat board that has the cross section of the ankle, find the center of the circle.
2. Use a compass to draw a clean circle.
3. Add a 1" (2.5 cm) seam allowance around the outside edge of the ankle cross section.
4. Draw another circle in the center of the cross section that is the dimension of the tubing to be used for the central support.
5. Cut out the mat board, then cut wedges into the seam allowance.
6. Bend the seam allowance at right angles to the cross section, then insert into the bottom of the Leg Form.
7. Tape the ankle cross section 1" (2.5 cm) inside the bottom of the Leg Form.



Drawing the Bottom Core



Cutting & Shaping the Core



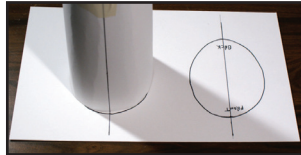
The Bottom Core Taped in Place

## Finishing the Leg

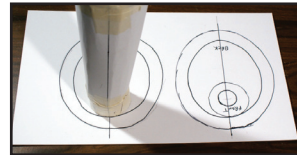
1. If you are making a Pants Form with a Wood Base, use the top of the Leg Form to establish the location of the pipe for the core of the leg on the Hip Cross Section, then screw 1" floor flanges in place for both legs. Proceed to page 7.
2. On a new piece of mat board, draw a center line for the top cross section of the leg. You can use the taped Leg Form to establish how far from the edge you need to draw this line. Be sure to include room for a 1" (2.5 cm) seam allowance for a taping flange.
3. On the center line, mark the Leg Width dimension 1" (2.5 cm) from the edge of the board. Leg Width is the front-to-back cross section dimension of the thigh.
4. Place the top of the leg on the mat board. Verify that the center line and seam of the Leg Form are aligned with the center line drawn in Step #1.
5. Trace the top of the Leg Form onto the mat board.
6. Add a 1" (2.5 cm) seam allowance for a taping flange around the cross section.
7. Place the bottom of the leg on the mat board at the front of the center line, then trace the shape of the leg and the opening for the pipe core.
8. Cut out the mat board, including the circle for the core and wedges, into the seam allowance.
9. Tape the cross section to the top of the Leg Form, alternating the flange tabs from the inside of the leg to the outside.
10. Cut a length of 1" PVC pipe so it is 3" (7.5 cm) longer than the leg.
11. To stop the pipe from slipping into the Leg Form, wrap 1" (2.5 cm) masking tape around the bottom of the pipe to increase the size of the bottom of the pipe.
12. Place the pipe into the leg, then wrap tape around the top of the pipe to secure it in place.



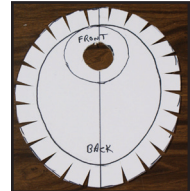
Leg-Width



Steps 4 & 5



Step 7



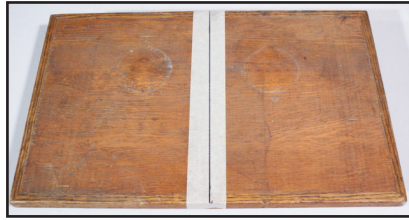
Step 8

Waist to Floor:	<input type="text"/>	Leg Width:	<input type="text"/>
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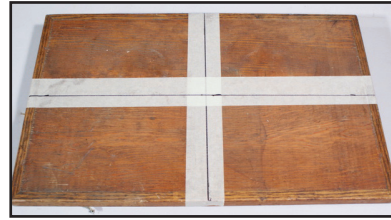
## The Leg Stand

To create a secure Leg Stand for the Body Double, screw iron pipe flanges to a wood base.

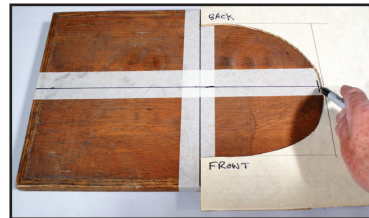
1. To create a center line for the board, measure its side-to-side dimension, then draw a line from the front to the back that halves this dimension.
2. Measure the board's front-to-back dimension, then draw a line from side to side that halves this dimension.
3. Place the Hip Cross Section on the board along the center line established in Step #1, then mark the side of the hip.
4. Use the top of the Leg Form to establish the location of the pipe that is the core of the leg. The pipe will be closer to the front of the board than the back.
5. Center a floor flange on the position established in Step #4, then screw it in place.
6. Repeat Step #5 for the other leg.
7. Screw the 1/2" pipe into board.



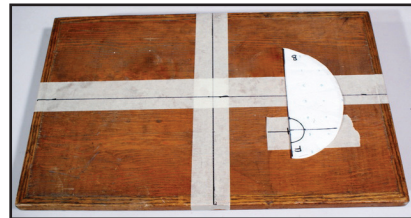
Step 1



Step 2



Step 3



Step 4

# *Adding the Lower Torso*

To create the lower portion of a Body Double or Pants Form, the Lower Torso pattern needs to be shaped to meet the top of the leg under the buttocks. To do this, create a fitting shell by cutting the Lower Torso pattern and the leg pattern (page 4) out of gingham.

## Fit the Lower Torso Pattern

1. Put a gingham fitting shell of the Leg Pattern created on page 4 on the body of the person the form is being made for.
2. Put on a gingham fitting shell of the Lower Torso (aka Skirt) pattern.
3. On the Lower Torso fitting shell, mark where the top of the leg meets the Lower Torso and include sewing notches.
4. To mark the inside of the leg, clip the center front of the Lower Torso fitting shell.
5. To pick up the shaping under the buttock, add a dart.



Front



Side



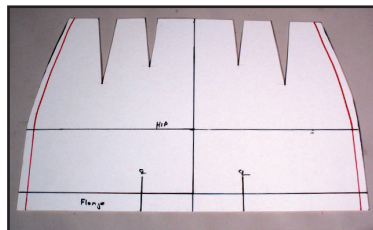
Back

## Adjust the Pattern

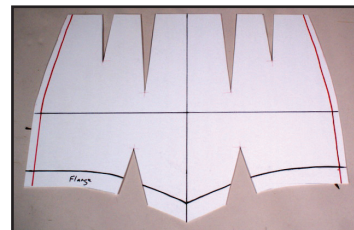
1. Transfer the marks from the fitting shell to the paper pattern.
2. If you are creating convertible forms, reduce the side seams of the pattern.

## Cut the Mat Board

3. Trace the patterns onto mat board.
4. Add a 1" (2.5 cm) flange allowance to the bottom of the Lower Torso pattern.
5. Cut the mat board.



Front Torso Mat Board



Back Torso Mat Board



## Add the Lower Torso to the Legs

1. Tape the lower torso form at the side seams.
2. Fold the seam allowance flanges so they will alternate from the outside to the inside of the form.
3. Using the fitting marks to align the torso to the leg, attach the torso to one leg.
4. Tape the dart on the lower torso for the area under the buttocks.
5. Tape the second leg in place. Then to secure the torso to the leg, tape the inside.
6. If you are creating a Hanging Pants Form with a Wood Base, screw the PVC pipe into the floor flanges on the Hip Cross Section, cut the pipe to the Waist-to-Floor measurement, then insert the base into the Leg Forms.
7. If you are NOT creating a Hanging Pants Form, shape the upper portion of the lower torso by taping the darts. Then tape the Waist Cross Section to the lower torso.



Step 3

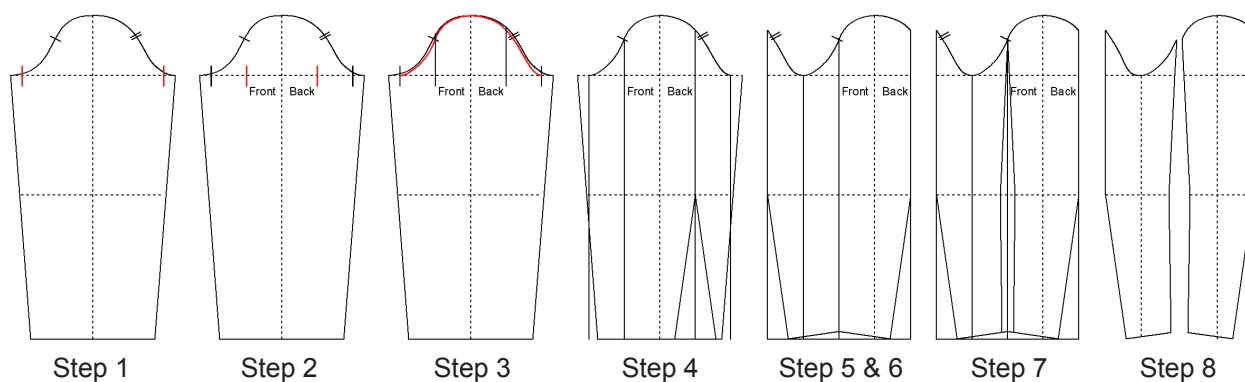


Step 6

# Adding Arms

To create the arm form, the basic sleeve sloper must be reduced to the actual measurements of the biceps, wrist, and circumference of the elbow. The seam needs to be moved to the back of the arm as this is where the contour of the arm bends at the elbow. A cross section of the shoulder is used to create a core for allowing the arm to be removed.

## The Arm Pattern



1. Use the Biceps measurement (#1) to remove the ease from the biceps line.
2. To establish the front and back of the arm, divide the biceps line in fourths.
3. Redraw the sleeve cap to the new biceps dimension.
4. Extend the front and back lines to the wrist, then angle the back of the arm in 2" (5 cm) from the elbow to the wrist.
5. Cut the pattern along the back of the arm line, then tape this section to the opposite underarm line.
6. Redraw the wrist line so it is at right angles to the back of the arm.
7. Use the circumference of the Elbow (#2) and the Wrist (#3) to adjust the front of the arm seam to the exact measurements of the body.
8. Cut out the pattern.

Biceps: (1)	Elbow: (2)	Wrist: (3)
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## The Arm Cross Section

To create a removable arm, first find the cross section of the arm at the shoulder. This is the portion of the body that the sleeve cap covers.

1. Use two L squares to determine the distance from the front of the shoulder to the back.
2. Use the L squares to determine the distance from the top of the shoulder to the bottom.
3. Draw a rectangle of these dimensions, then sketch an oval inside the rectangle.

## The Shoulder Core

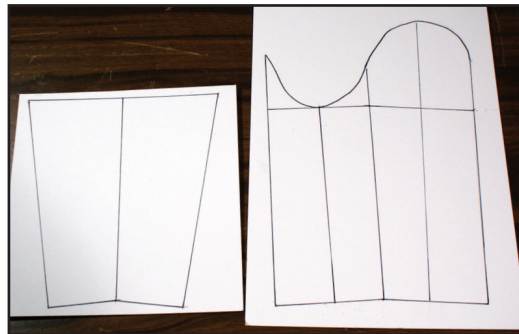
The shoulder core will be inserted into the upper torso to receive the arm.

1. To cut out the shape in mat board, use the pattern for the cross section of the arm. You will need two ovals.
2. Measure the distance around the circumference of the oval.
3. Cut out two strips of mat board that are 2" (5 cm) high and the length of the circumference determined in Step 2.

## Cutting the Arm

The arm form is created by taking the adjusted sleeve pattern from page 10 and cutting it at the elbow. The pattern is then taped together at the front of the arm so there is just one seam down the back of the arm and one at the elbow. A seam allowance flange is added to the sleeve cap so the arm can be inserted into the upper torso form.

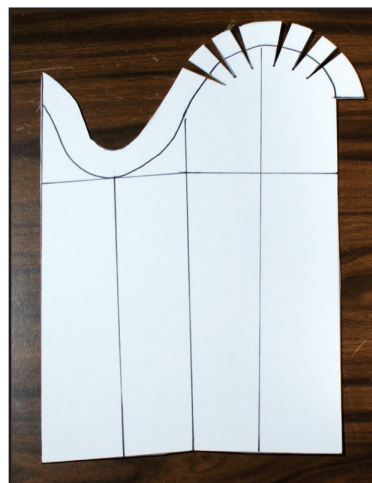
1. Cut the sleeve pattern along the elbow line.
2. Tape the outside of the upper arm to the inside along the front of the arm line.
3. Tape the outside of the lower arm to the inside along the front of the arm line.
4. Trace the upper arm pattern onto the mat board, leaving room for a 1" (2.5 cm) flange at the top of the sleeve cap.
5. Mark the location of the outside, front, and inside of the arm, then draw in reference lines.
6. Flip the pattern, over then trace the arm pattern for the other arm.
7. Trace the lower arm pattern. Include the reference lines for the outside, front, and inside of the arm.
8. Flip the lower arm pattern over, then trace the other arm shape.



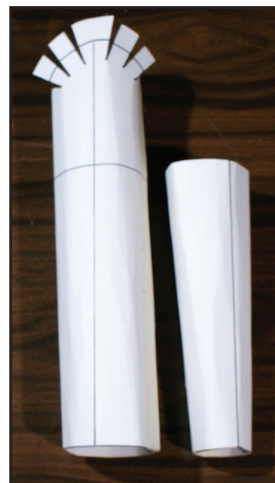
Sleeve Traced to Mat Board

## Taping the Arm

1. Cut the lower arm from the mat board.
2. Roll the lower arm into a cylinder, then tape it.
3. Draw in darts around the top of the sleeve cap that are 3/4" (19 mm) long by 1/8" (3 mm) wide. Keep the center of these darts at right angles to the sleeve cap line. Draw a dart 1/2" (9 mm) on either side of the sleeve center line, then add two more darts spaced 3/4" (19 mm) apart down the front and back of the sleeve cap.
4. Add a 1" (25 mm) seam allowance flange around the entire sleeve cap.
5. Cut out the upper arm including the darts.
6. Roll the upper arm into a cylinder, then tape it.



Upper Arm

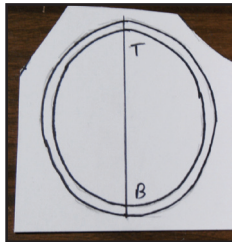


Rolled Arm Form

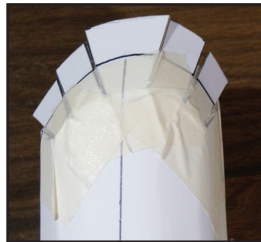
## Finish the Arm

To finish the arm, shape the top of the arm form to replicate the contour of the shoulder. Extend the arm to fit inside the Shoulder Core created on page 15.

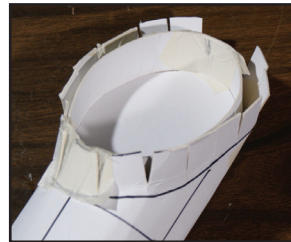
1. Trace the cross section of the arm onto a piece of mat board.
2. Reduce the size of the oval by 1/4". This is the sleeve cap oval.
3. Cut two ovals out of mat board, then cut two strips that are 1" by the length of the circumference of the sleeve cap oval.
4. Tape the strips to the sleeve cap oval, as for the Shoulder Core on page 10.
5. Shape the top of the arm by taping the darts closed.
6. Insert the sleeve cap core inside the arm and tape in place.
7. Tape the lower arm to the upper arm.
8. Use the Shoulder Core created on page 10 to verify the arm fits correctly.



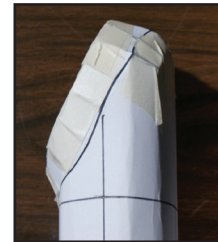
Steps 1&2



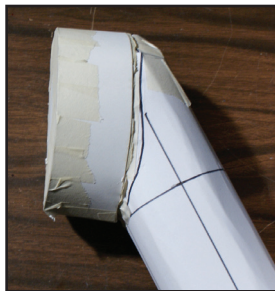
Steps 5



Step 6



Taped Core



Step 8



Finished Arm

## Finish the The Body Double

The final steps for finishing the Body Double include adding the Shoulder Core so the arms can be inserted, adding the bust shape, and inserting the head.

1. Insert the Shoulder Core described on page 10 into the Upper Torso, then tape in place. Adjust the lower portion of the arm opening of the Upper Torso as required to assure a good fit.
2. To use the Body Double for pants, adjust the crotch at center front.
3. Add the Bra Sloper, securing it at the back with velcro. This allows you to change the sloper based on the specific contours of various bras you may develop.
4. Insert the head into the neck.
5. Insert the arms into the arm sockets.

A technique you can use to help hold parts of the Body Double in place, such as the arms and the torso of the convertible Body Double, is to use adhesive velcro on the form then secure the parts in place with non-adhesive velcro. Use the soft side of the velcro for the adhesive portion as the rough side can snag on fabric.