
TCN

TEXTILE
CONSERVATION
NEWSLETTER

Mannequins
for the
Royal Ontario Museum
Costume Gallery

Prepared by
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Textile Department
Royal Ontario Museum
1987

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MANNEQUINS FOR THE ROYAL ONTARIO MUSEUM
COSTUME GALLERY

Report prepared for the Textile Department,
Royal Ontario Museum
100 Queen's Park
Toronto, Ontario
Canada, M5S 2C6

by Alexandra Palmer
November 1987

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Spring 1988

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CONCERNS WHEN EXHIBITING COSTUME

"..fashion and costume are among the most difficult subjects to display well, for as received in the museum they consist of a series of incomplete objects..."

[Madeleine Ginsburg. "The mounting and display of fashion and dress." (1973)].

This report addresses the problems involved in exhibiting western fashionable dress on a full mannequin and discusses the various mannequins and modifications available. Fashion costume is the most difficult type of costume to mount as correct fit and posture are necessary from both an historic and conservation stance. An adequate solution for this is a starting point for considering other garment types, such as oversized and/or flat constructions found in much ethnographic costume. It is always easier to build bulk and height rather than to subtract. Information is also provided for alternative methods of display, as well as techniques for dressing mannequins, solutions to hair, the use of accessories, and a bibliography of mounting techniques.

It is important to remember that western fashionable dress is three dimensional in structure and design; and requires a three dimensional support in order to safely exhibit it and demonstrate its shape, function and spacial qualities. Mannequins can best fulfill these requirements, however, there is no 'perfect' museum mannequin. Mannequins for fashion costume use fall into two natural divisions. Those for period costume which have very special requirements and are very awkward to fit, and those for modern, post W.W.I, costume which can more readily fit commercial mannequins. As each institution solves individual problems through experience, the choice and knowledge in display broadens. Philosophies of mounting and design differ considerably, producing a vast scope of techniques from which to draw.

Costume exhibitions can easily appear static and repetitious. They have an added financial and practical encumbrance of depending largely upon mannequins which can often restrict new interpretations as one becomes dependant on the mannequin support system. The more flexible and malleable the mannequin the more opportunity there is for innovation. There is, however, a limit between a safe and functional model that properly achieves the silhouettes of various periods, and one that is so specific for a certain date that its use is very limited.

Elizabeth Jachamovicz, Curator of Costume, Chicago Historical Society, believes that each costume exhibition has its own character. The ROM Textile Department now has the opportunity to

develop a programme style for the costume gallery. This style should reflect the concept of the exhibition and be reviewed along with each new exhibit. Due to the amount of money one can invest in mannequins a decision should be reached that meets as many prospective needs of the Department as possible. This becomes difficult with a large and diverse collection.

Most museums build a mannequin collection from their exhibition programme. The Brooklyn Museum is planning a Fin de Siecle exhibit and is looking into purchasing approximately 80 large breasted mannequins. The ROM's exhibition programme is more in keeping with that of the Victoria and Albert Museum, having a semi-permanent installation. In the future, should an exhibition be planned around a specific designer or time frame, additional mannequins may have to be considered, making the future availability of the mannequins chosen a consideration.

Approaches to mannequins are as varied as costume exhibitions. The use of made-up faces, wigs and all accessories leads one to explore social history, manners and custom. Abstract faces and minimal detailing tend to represent the costume as an art object displayed as a painting is hung, the mannequin providing the frame. Realistic faces draw our attention as we tend to 'read' them before focusing on other details. Some feel this is a tool to initiate interest while others understand that an abstract face negates this natural tendency and immediately sets off the costume as the prime target of interest. Several tests have been conducted on this subject, the most recent at The Provincial Museum Victoria, BC, is currently undergoing the final stages of data analysis.

Due to the fragile nature of the material, costume and textile exhibitions place continual and rigorous demands on staff time. An exhibition and/or mannequin will require care within 6-8 months of its installation. This is a continual situation which cannot be over emphasised. For this reason the time and support staff of the Textile Department should be carefully considered in order to determine an exhibition mounting scheme that suits the collections, the aesthetics and philosophy of the staff as well as the inner structure of the Museum. The time involved in dressing a mannequin can be considerable. To dress a mannequin correctly and safely can take 1 - 3 days depending upon the costume, condition, underpinnings and accessories.

Ideally, the mounting style of costume and textiles should be a collaborative effort between the curator, conservator, designer, and technician. The purchasing of mannequins can also be considered in this same light. The Textile Department has one full-time technician who is responsible for the overall maintenance of the collection with some part-time assistance. The

mounting of costume and textiles on a rotational scheme can be considered as another full-time position.

ICOM Technical File no. 1 entitled "Display of Costume" (1970) lists three methods of costume mounting.

- figurative, with head
- non-figurative, without head
- without mannequin

Madeleine Ginsburg has broken this down into further categories in "The mounting and display of fashion and dress" (1973).

- museum-made torso
- shop-bought torso
- stand-cum-hanger
- figurative models "tableau vivant"
- period window models
- bas relief, "flatty"

The ROM has extensive experience in mounting mannequins without heads. This has been achieved in the past with commercial display torsos, jewelry models consisting of neck and chest, and soft foam dress makers forms. Several other supports have been used for exhibitions such as rods, hangers and other devices. The decision to exhibit western costume using a fully costumed and accessorized mannequin with a head brings with it several components which have not had to be previously addressed.

- the type of mannequin(s) to be used.
- the use of abstract or realistic face.
- the use of collections accessories has to be determined.
- the use of seated mannequins.
- the use of hair, make-up, shoes and additional props.
- a system of mounting costume which does not become too time consuming and which meets conservation standards.

Following are some alternatives to these issues which can be considered.

COSTUME MOUNTING TECHNIQUES

The most standard form of mounting costume is based upon techniques used at the Costume Institute, MMA. Outlined below are some of their methods augmented with those used elsewhere.

It is important to remember that the mounting of costume is the support for the garment while it is on exhibition. The more stable the underpinnings the better the garment will look over time and the less damage will occur.

-The mannequin is sealed with a protective coat of clear Krylon.

-The garment should always be protected from the mannequin.

-Pantie-hose can be used as both a protective layer and a smooth, elastic area to stuff with polyester baton to create the correct shape and fit of the garment.

-To cover the mannequin, the arms are placed in the legs of the stockings. The crotch is slashed and pulled over the head, protecting the shoulders and torso. Where the stocking has been cut it is basted with twill tape. This stops runs and ensures that the nylon does not ride up the limb. Additional hose are placed over the legs in the normal fashion.

-Clean t-shirts may be used in the same fashion. They do provide a little more bulk but do not need to be bound at the edges. For period women children's sizes create a snug fit.

-Corsets, bras and other modern or reproduction undergarments are often placed over the hose and used as a foundation for the correct silhouette. This is extremely useful for strapless and/or heavy dresses. The Costume Institute has had a large number of semi-boned corsets based upon corsets in the collection. These can be washed, re-cut, and padded.

-Petticoats and crinolines are used in a number of ways. Original undergarments which duplicate or are of poor quality or condition are often collected for mounting purposes. These are always extremely useful. Additional net and cotton petticoats can be made for specific garments and needs as the situation arises. It is more economical, both in time and financially, to have a standard system which allows for petticoats to be combined or thinned and re-used. Gathered panels which can be attached to each other or used alone are often better than petticoats which have a fixed waist and are constructed. Crinolines may be made from muslin. Plastic surgical tubing which can be cut, re-taped and pulled in the channel of the petticoat is safe and adaptable to make the correct style of crinoline for the garment.

-The ROM's development of plastic covered wires attached to a

wooden circle and placed on the stand of the dress form to produce a support and petticoat are very successful. These could be re-made with more wires and a system which would allow the wire to be raised, lowered and moved around the circle for more flexibility. This saves a great deal of time often given over to producing hoops which are difficult to adjust to the individual garment. This system is easily adapted to mannequins designed like the Wacoal models with a rod in the centre. Thought can be given to adapt this to mannequins with solid waists.

-Buckram of varying weights is often employed to avoid the use of multiple petticoats. This is especially useful for lightweight garments that require volume. Shaping can be achieved by the addition of ribbon wire. This is a cotton with wire inside and holds its shape when bent. Buckram, which achieves its stiffness and shaping ability from glue, should never be left next to the garment; always provide an inert buffer.

-It is considered safer to sew than to pin. Should the wish be to have the underpinnings or garment held in a certain position this can be achieved by careful sewing and/or the attachment of tapes which are easily controlled. This technique should negate the necessity of pins, stainless steel or otherwise. Tapes are also helpful in controlling the bulk of petticoats.

-Polyester baton used as stuffing provides the final fit for the individual costume.

-It does require two people to dress a mannequin safely. This is important in the beginning stages of placing the dress, skirt, bodice or pants on the form. The costume needs to be supported while the arms are set into the sockets, the waistband closed and the skirt placed over the bustle and petticoats etc. Once the costume is supported one person can finish the mounting alone.

HAIR TECHNIQUES

The use of a fully costumed and articulated mannequin immediately introduces the issue of hair. The use and style of hair can depend upon the mannequin design, however it most often becomes a curatorial decision, influenced by staff time and resources. Most often a period mannequin with a head has some type of hair. This is important as the overall proportions of the costume become distorted without hair. Period hats cannot be supported or placed at the appropriate angle and height without some type of hair. Bald heads on modern mannequins and 20th century costume has become an alternative some museums use. The success of any of the following methods is a matter of personal taste, but many exhibitions and institutions use hair in unique and distinct ways, creating a type of display signature.

The Costume Institute was one of the first museums to use an abstract approach to hair using stockings, chiffon and/or net, as well as making papier mache wigs. This idea has been extended by the Kyoto Costume Institute which implemented the use of paper hair the same colour as the mannequin, still providing volume and balance to the silhouette without having a literal representation.

The ethafoam museum-made mannequins (see p.12), when presented with heads, have used a styrafoam wig stand with an abstract face. The hair styles have been made from the same cotton knit that covers the face. The Musee des Arts de la Mode in Paris used a flesh cotton knit over their mannequins in 'Hommage a Christian Dior' and did not strive for any semblance of hair on an abstract face. Original hats, earrings and necklaces were the only accessories.

The Brooklyn Museum used a similar approach in 'The Genius of Charles James' exhibit. The mannequins were painted a dark grey, had abstract faces and bald. A fabric circle Charles James created was used to suggest a hair style on some models, again only James' accessories were used.

The Musee des Arts de la Mode, Paris, for the inaugural exhibition 'Moments de Mode' had 18th and 19th century female costume on mannequins with sculpted faces and hair, and also sculpted faces and natural looking wigs. 20th century female costume was placed upon abstracted mannequins without hair, and sculpted supports without heads or arms. For male 18th century headless forms, molded clear plastic heads with no hair, and mannequins with naturalistic features and a powdered wig were all used. Some of these models were combined within the same vignette and others were exhibited together. This was spread over several floors and an extremely large exhibition area.

Jean Michel Tuchscherer, Curator at The Boston Museum of Fine

Arts, prefers to have costume exhibited with period make-up, appropriate hair style, and all the accessories. He borrowed the 18th century mannequins produced by Los Angeles County Museum for an exhibition as these fulfilled his requirements. The mannequins have plaster heads based upon drawings of the period, and realistic wigs were used. The installation of 'An Elegant Art', for which these mannequins were made, was based upon engravings of the period.

A stock of period-style wigs are a solution several museums use. However they have to be re-dressed continually unless the hard forms are obtained and they cannot be re-styled.

The Victoria and Albert has used an interesting combination of abstract and realistic techniques. The mannequins have dressed period wigs, however they are of a similar white colour as the mannequins. Make-up is used in a monochromatic and subtle style that details eyes, eyebrows and rouge emulating the taste of the period without literally depicting it. However for the 1920's the mannequins have sculpted hair, painted with the mannequin.

The Wacoal mannequins with abstracted faces have, most commonly been presented with paper hair. Paper hair is applied directly onto the head of the mannequin. This is much easier to do with the Wacoal models that have removable heads than other models that do not. The main advantage, of this technique is that it is custom made for the garment, the drawback being it is not recyclable.

At the Pitti Palace the staff have produced a skull cap upon which is applied grosgrain ribbon. The ribbon is held in place with an upholstery glue that is quick drying. The final hair style can have the abstracted and airy quality of the paper hair, with the addition of being easy to save and re-use. A concern of this method is the use of hats placed on this construction. The hair could be finally sprayed with a sealant and the hat buffered. This style of hair in grosgrain or plaited straw would be possible to have made up by a wig-maker or a milliner.

The major wig house in New York is Zee Studios Inc., 20 West 37th Street, (212) 279-2700.

Derek Waite of Hindsgaul mannequins in Toronto recommends a wig maker in London. An average wig costs \$100.00 - 150.00, the cost would be more for an elaborate style. (IE late 18th C.)

Melinda Clark is a milliner in Toronto who has been recommended by a costume shop. She is extremely interested in developing wigs. Once the mannequins were at the ROM she could come in and see them, and some costumes and make some prototypes. 134 St. Clements Avenue, Toronto, M4R 1A2. (416) 481-0698.

USE OF ACCESSORIES

The use of costume accessories is an area of concern in an exhibition programme, and gallery design. The use of accessories with a mannequin involves more time and care in the initial selection of objects, preparation, dressing, as well as concerns about the safety of the object during the life of the exhibition. If it is the curatorial programme to present costume mounted with a full component of accessories, determinations should be made concerning the use of objects. This becomes important if the correct object is not available, or is too fragile to use. Again philosophies differ and should be suited to the individual exhibition, the collection, and staffing. Labeling should also be considered as it can become very lengthy.

Otto Thieme in Cincinnati has developed the following approach. Period mannequins are dressed with reproduction frills etc, of plain cloth in a colour and weight similar to that of the original worn; paper hair in the style of the period is made. Modern abstract faced mannequins are dressed in stockings, no shoes, as they have a foot plate, bald heads, mounting bras and petticoats are used to support the costume. Other costume, hats, fans, handbags, gloves, stockings, shoes etc. are exhibited as objects in other cases. This does mean the producing of period style trims, (fichus, cuffs etc.) but also makes dressing modern mannequins simpler. It avoids the question of what to do should you have the incorrect size shoe for the mannequin, or fail to have an appropriate accessory for the costume represented. Many accessories survive which are too fragile to display with a mannequin, thus cases provide a means of exhibit for these objects as well as a vehicle for close examination of small objects which may be seen flat or three dimensionally. Fans are an example, as well as toilette articles.

Another approach is the use of correct period accessories when available, and a simulation that is 'neutral' in its colour, style etc. to provide the balance, or continuity in presentation style. This requires storage space and the building of mounting props. This becomes especially bulky for shoes. Numerous styles of shoes can be accumulated and dyed to suit the costume. A similar or same shoe size, and heel height on the mannequins is helpful to avoid having to duplicate models.

The Victoria and Albert have used as many original components of costume as possible. Due to the size and breadth of the collection they are able to trim garments with many original examples. In areas where items are unavailable they note that other pieces are replicas.

Mannequins with a foot support obviously cannot accommodate original shoes. A mannequin that does not have a foot plate can

wear collections' shoes, however some feel that if the mannequin's foot is bearing weight, that using collections's shoes is not advisable. Others suggest that no shoes present an 'undressed' or incomplete appearance.

A curatorial statement about the chosen means of representation can accompany the notice concerning light levels. This may help to dispel members of the public's dissatisfaction with the final mounting programme.

ALTERNATIVES TO HARD FORM MANNEQUINS

Existing museum mannequins, as well as the options of developing a new one and/or modifying one are outlined below. The alternative to a hard form mannequin can be considered as a temporary or permanent solution.

The Costume Institute of the Metropolitan Museum of Art developed a specially padded hanger for their system of hanging storage. This has been modified by several people and is used as the method of both storage and mounting at Colonial Williamsburg in the costume gallery of the new De Witt Wallace Galleries.

The scope of the Williamsburg collection is bound by a strict time frame, the 18th century to the early 19th century, providing a uniformity in fashion style that is not possible for other institutions with a cross-cultural and all encompassing collection. The new storage is located directly behind the exhibition cases so minimal movement of the costume is required. The costumes are stored on the padded hangers, making them accessible and fairly quickly prepared for display, all within the storage room. Costumes are exhibited on this headless hanger system that supports the costume in an 'anonymous' way. Linda Baumgarten, Curator, feels that there is no successful hard form available that is malleable enough to support the costume as well as this method. Trousers or breeches are laid over another support and often displayed with the interior construction visible. The accompanying coat and all dresses are mounted on a headless form. This type of armature would not be so successful for late 19th century and much 20th century costume which often is more structured and heavy. This armature does work well for flat garment construction.

Another argument in favour of this technique can be made for the 'lasting' quality of photographs. Most often it is in the head that the style of mounting becomes dated and reflects the time of the exhibit, however much one strives to be objective and true to history. Photographs taken of headless mannequins are less susceptible to 'dating'.

The most recent method of constructing mannequins developed by the Provincial Museum of Alberta meets conservation requirements very successfully, while it has the benefit of being cheaply made in-house. For these reasons the ethafoam method should supercede, in most cases, the chicken wire, gummed paper and plaster home-made mannequins. The ethafoam mannequins have been used successfully in numerous exhibitions. Several workshops have been given on how to make them as well as articles published. A single mannequin may take up to 3 days to complete and dress, this has been achieved for PMA with the help of volunteers. One does not have to be an artist to make a successful form. These mannequins have evolved from a dress form type of structure to an action posed form with head. One was made for a military uniform and

shown with legs and helmet, another was built to demonstrate someone mounting a bicycle. These are built to the specifications of the costumes and thus perfectly support the artifact. The forms can be recycled.

There are two techniques of making these forms. One is by assembling vertical slabs over a wooden T, the other is by using horizontal discs. Both achieve the same result however Tom Strang, Conservator at the PMA, argues that the vertical slabs are stronger and easier to sculpt, especially for beginners. The horizontal discs, Liza Mibach, Conservator, formally at PMA, recommends if the intention is to build a mannequin for a late 19th century dress, or something that involves a more complex shape. Mannequins have been built with the bustle incorporated into the form, they have also been produced with a detachable bustle, providing a little flexibility for the future use of the mannequin.

This method is probably not desirable for the ROM's overall costume gallery programme, but it may prove to be an extremely useful technique for a special exhibit, or for a particular costume which presents difficulties if placed on a mannequin or dress form, and for accessories. It would have proved an excellent method of display for the Queen's dress, giving a solid support to the heavy garment. It may be a practical solution for some ethnographic costume, as the ethafoam can be cut to the shape of any large or small garment.

The use of commercial and/or historical dress forms can augment an exhibition, both visually and educationally. This is especially true in light of the present exhibition which focuses upon construction.

MUSEUM MANNEQUINS

WACOAL CORP.

29 Nakajima-Cho
Kisshoin, Minami-Ku
Kyoto, Japan

CONTACT: Mr. Naonori Yamanishi, Manager

COST: \$ 1530.00 per mannequin (Canadian Funds)
@ \$ 1500.00 + for Brokerage and Duty

They have a New York agent who is very helpful.

Jun Kanai
115 East 30th Street
NYC, NY 10016
(212) 575-7730 (work at Issey Miyake)

The mannequins are currently in use at:

Kyoto Costume Museum, Japan
Costume Institute of the Metropolitan Museum of Art, NYC, NY
Design Laboratory, Fashion Institute of Technology, NYC, NY
Kent State University Museum, Ohio
Cincinnati Art Museum, Ohio
Wadsworth Atheneum, Hartford, Connecticut
Pitti Palace, Italy

Models are in Ottawa at the Canadian Museum of Civilization and
Canadian Conservation Institute.

There are four styles available according to period.

18th Century
Empire
19th Century
Belle Epoch

A seated form is available and does provide a great deal of depth
in tableaux.

The mannequin comes with a standard head, arms, legs and stand.
The torso is the determining factor for date.

18th Century

This has worked well in my experience, the conical form of the torso emulates that of a stomach and provides a good foundation. The bust and chest emulate the position with a corset on.

Empire, early 19th Century

This is fairly successful in shoulder width and length of torso. However, the bust has been too large in my experience, Cincinnati has had one empire bust made smaller. This I would recommend for the ROM.

19th Century

This mannequin is the most successful in this line and an excellent period mannequin for 19th century. It successfully manages to accommodate the waists, shoulders and bust of most costumes from the 18-teens to late 19th century and some early 20th century. The key to success is the of height and the midriff area, as well as having a rounded bust which can be easily further shaped with padding.

Belle Epoch

I have had no personal experience with this style. Fashion Institute of Technology, Costume Institute and Cincinnati have had some success with this. Those that have the Jerry Roe often end up using it instead. The Costume Institute placed the Roe torso on a Wacoal base and had a rod made for the face. The main difference from the 19th century is the shoulder line, the Belle Epoch shoulders are more straight, (at right angles) and supporting the style of costume with kimono sleeves and V necks which tend to slide off the 19th century models. The monobosom, high waist and forward thrust of the upper torso often make it difficult to successfully support and mount costume from this time frame. The mannequin does have a tilt device to assist in achieving the correct posture.

FLEXIBLE ARMS AND HANDS

These are made from polyurethane resin. These are completely malleable and give tremendous character and versatility to an exhibit. They can safely hold objects in the manner they were intended to be used. Hands can be used under non-accessioned gloves. The arms are thin and fit tight sleeves. However, conservators consider polyurethane to be harmful to the costume. The arms do yellow with exposure to light and look terrible, the softness is retained, but they can only be used under a full sleeve, and/or glove. Wacoal suggests replacing them every few years.

HARD ARMS AND HANDS

These work well and are easy to use. The fitting of arm to torso places as little stress as possible on the costume when mounting. They also move easily in the sockets. There is no variation of position, this is provided for by the flexible arms. Otto Thieme, Cincinnati has had the wrist broken and set back at a different angle for variation as he does not use the flexible arms or hands. These are fatter than the flexible and sometimes do pose a problem in mounting a very fitted, narrow sleeve. The arms can appear too long and 'ape-like' if the mannequin is mounted in a short dress.

There are no modern styles, or male models available. A complimentary model would have to be used. FIT uses these with Hindsgaul mannequins.

NOTE: I did speak with Jun Kanai about the possibility of developing a male compliment. She said they are considering making about 10 for an 18th century exhibition in Kyoto scheduled to open in the fall of 1989. These would not be available commercially. Later, she spoke with Avril Hart at the V & A and they are very pleased with 'Rupert'. Jun Kanai is recommending Kyoto buy him and have a head made which compliments their mannequins. This is a good option.

MUSEUM MANNIKIN (JERRY ROE)

Lor Sales Company
185 6th Street
Brooklyn, New York
New York, 11215
(718) 858-9200

CONTACT: Jerry Forrest

These mannequins are used by several museums.

Brooklyn Museum
Museum of the City of New York
Metropolitan Museum of Art, Costume Institute
Smithsonian Institution
Valentine Museum, Richmond
Chicago Historical Society
Detroit Historical Society

These are the standard North American museum period mannequin. Individual problems will arise with individual pieces as with all collections, however the models have been tried and it is possible to have a clear idea of the mannequin and its limitations. Unfortunately the company no longer has a reliable reputation as the workmanship has deteriorated over the years and orders may not be filled as specified.

The general opinion seems to be that the price is right and these forms are readily available, so one puts up with the faces and too long hands. Elizabeth Jachamovicz, Curator at the Chicago Historical Society has Roe mannequins purchased when Mr. Roe was involved. She is very happy with them and does not believe that there is another period mannequin available that is substantially better, the Wacoal is so expensive and she feels it does not solve problems much better.

MUSEUM MANNIKIN

COST:\$350 - 400 (US Funds)

The current head available is unattractive as it looks dated. It has a short forehead. The arms are too long and the mannequin loses its proportions. Perhaps a rod to the elbow should be considered for several mannequins. The hands are grossly oversized.

There are several shapes of torsos for the various periods.

Small, extra small and large Victorian
Small Empire
1900 Era
Boys size 6

These are available as half (to hips), or full forms with legs. The most commonly used, and therefore most successful shapes are the small Victorian and 1900.

The mannequins are supported by a rod that is too flimsy and can cause the mannequin to be very wobbly and lean if a heavy costume is placed on it. This should be able to be rectified with better hardware.

One disadvantage is the static nature of the torso. One would need several of each style in order to satisfy prospective exhibit needs, inevitably there would be situations when additional forms would be needed. IE more small or larger shapes, or more 1900s. However this is made possible by the low cost.

MILITARY

COST: \$ 300.00 (US Funds)

Male models standing and seated. Self standing which is a tremendous advantage as long as it is stable. These are very ugly but could be ordered with an abstract head or no head. They are quite static in posture.

MULTIFORMS

COST: \$ 500.00 (US Funds)

These I do not recommend. In my experience they do not articulate well, are difficult to dress as they become 'floppy' and are not stable. The heads are detachable at the neck so a line is visible, this may cause some aesthetic concerns.

BROSNAN - ROE

This mannequin is the one used at the Museum of the City of New York, and they are very happy with it. They took the Jerry Roe and Mary Brosnan form, (these are similar, but the Brosnan are no longer on the market) as a basis and made a new face and corrected some proportions. Unfortunately the mold they developed has been lost. The Museum of the City of New York is currently investigating having the mannequin recast by Goldsmith. This proportions in this mannequin are good and the face is similar to

period fashion illustrations. This is the best version of this style and can be recommended. This type of model was used at the Kent State University Museum for mounting, Indian, Japanese and Chinese costume. The only modification that may be important in this model is the hands which are very small and cannot hold objects too well. It is possible to have existing children's hands instead or as well. I do suggest the addition of feet, in a method similar to the Wacoal mannequins. Feet are often overlooked and are vital to create the correct silhouette and balance in a number of different periods where ankles were exposed.

The cost of this mannequin depends upon the manufacturer. Goldsmith will produce it, a mold costing about \$1000.00-\$1500.00, and the cost per mannequin, with arms etc. @ \$800.00 (US Funds)

Studio One would charge \$1000.00, for recasting a mannequin of this configuration and the cost per mannequin under \$600.00.

MANNIKIT (TM), INC

P.O. Box 13138
Richmond, Virginia
23225

(804) 233-7973 work
(804) 233-2433 home

CONTACT: Kathy Krotseng

Ms. Krotseng has a background in theatre design and has volunteered at the Valentine Museum in the costume department. She is developing a modular mannequin which is easy to use for mounting period costume, the torso can also be used for hanging storage.

She is developing a soft foam mannikin family, male, female and children. Originally she was working with the Bendie manufacturers but is now developing a new foam which meets conservation standards. The foam she is now developing is ethafoam interior and silicone exterior. This is placed over a flexible metal spine. It is still in the developmental stages but very much worth pursuing. Ms. Krotseng hopes to be able to offer the mannequin in early 1988. She will have abstract and realistic faces. All the parts may be purchased separately at any time.

The cost will be determined once the manufacturing process is completely finalized, however it is one her goals that this is not prohibitive or only affordable by major museums.

(See: Bendie catalogue to better understand the principle)

GOLDSMITH

10-19 43rd Avenue
Long Island City
New York, 11101

(718) 937 - 8476

CONTACT: Shane de Rolf

Goldsmith manufactured the mannequins for the Metropolitan Museum of Art, Costume Institute, 'Dance' exhibition, 1986. This was under the direction of Katell le Bourhis of the Costume Institute. They are an extremely co-operative and professional firm.

DANCE MANNEQUIN

COST: \$ 800.00 (US Funds)

These mannequins were produced in two sizes and sexes. This in itself is a positive feature. They were designed specifically to demonstrate a dancing posture so have an exaggerated arched back. They are designed with the best feature of the Wacoal mannequin which is the versatility of the waist, with a raising and lowering, and tilting device. This may compensate for the arch, however this should be tested with costume prior to an investment. They have the addition of the centre portion with a back area cut out, to reach the adjustment rods. This midriff may be removed, to shorten or can be placed back on the mannequin to provide a foundation if useful. This would tend to be good for 20th Century and especially fitted bias or knitted garments.

The proportions of the mannequins are small and fine. The hands are graceful and can wear gloves without placing undue stress on them. The face and styling is quite sculptural with defined features and muscles.

They have been designed in the style of a modern mannequin and do not strive for a period silhouette as the Roe or Wacoal models. The small female and male are designed to fit costume dating from the 18th to 19th century. The larger size is a more contemporary scale and the same mannequin.

AMERICAN

COST: \$ 800.00 (US Funds)

This mannequin is a continuation of the 'Dance', it is based upon the same sculpting but has a straight back and simple stance. It has only been cast in the small size and is only available in that model. It is unlikely that the mannequin will be produced in a larger size as was originally intended. One could try to negotiate with the Metropolitan about producing the larger size. It belongs to the 'Dance' family and is intended to be used with those models.

OSCAR (SAUDI ARABIAN)

These mannequins are completely abstracted and were produced to suit flat patterned garments. They were designed for an exhibition of Saudi Arabian costumes which is a traveling exhibition.

The mannequin consists of a head and torso cast in one to hip length. Two rods reach from underneath the hip to a base. Half legs were made. These are small abstracted feet, no toes, no arch, to mid calf. These are intended be free standing in each side of the rod. The arms are wooden with paddle hands. These fit into a small hole at the shoulder in the same manner as the 7 Continents dress forms. The wooden arms are not functional for western dress and new fibreglas arms can be made. This involves a new mold with fixed arm plates that are strong. At this stage it is possible to have customized measurements of waist, bust etc.

The most appealing feature of these is that they were produced in 2 sizes of female, with a small waist and small undefined bust, as well as a corresponding male model and children age 5,7, and 9.

COST: \$ 800.00 (US Funds) is an approximate cost per mannequin, with the addition of functional arms with secure arm sockets.

Goldsmith estimates for custom work for molds. (US Funds)

New arms with hands. Cost: \$ 1500.00

A new head. This involves a new mold for each proportion.
Cost: \$ 3500.00

To make a mold form an existing mannequin (ie: Brosnan-Roe)
The cost per mannequin is a separate item.
Cost: \$ 1000.00 - 1500.00

To produce a completely new mannequin from scratch involves the following time and money.

COST	PROCESS	TIME
\$ 7500.00	Sculpture	4 weeks
- 8500.00	Mold	4 weeks

Estimate pre-production time is @ 10 weeks.

Casting	2 models per day
+ post-production	2 weeks per model

Estimate 15 finished mannequins per week.
Estimate 50 finished mannequins takes 5-6 months.

DEREK RYMAN MANNEQUINS

17 New Wharf Road
Kings Cross, London
England, N1 9RT

01-837-6267

CONTACT: Peter Murphy

This company custom designed and manufactured mannequins for the Victoria and Albert Museum for the costume gallery which opened in 1984.

ALEXANDRA

This mannequin was produced by the V & A staff and Derek Ryman. It was decided to make a mannequin with a corseted form specifically to fit costume from 1895 - 1920. This decision was made after the staff had worked with the 18-19th century models designed with an uncorseted shape, in order to accommodate such a large time span. The staff is quite happy with this model. They do recommend however a change of legs, and possibly the head position, as they think these make the mannequin rather rigid. These are the changes they will make should they order more.

'Alexandra' was also made for the museum with a foam torso which can be sculpted down. The best features of this form are in the arms and hip raising and lowering possibilities which keep the mannequin in proportion to itself.

ALBERT

Fulfills many requirements in the range of sizes. However he becomes unwieldy as he expands. Apparently he had problems standing, but this has been solved at the Museum. The proportion between the size of the head, and length of the leg between ankle and calf has produced some difficulties, but overall it does achieve fit over a wide range of sizes. This is quite an accomplishment and also useful as this keeps one form in constant use, rather than storing extra sizes. He does require two people to dress him, however costume should be mounted with two people.

RUPERT

Rupert was designed for the 18th century and the staff is quite happy with it. It is the same design as Albert, with a different head. Kyoto Costume Institute will probably buy this model and have a new head made that is complimentary to the Wacoal models for an 18th century exhibit that is being planned.

COST: 470.00 pounds sterling @ \$ 1125.00
Shipping to NYC @ \$ 400.00

There are shipping discounts with large orders, however the ROM would not require too many male figures.

MUSEUM CASTS INTERNATIONAL

4 Church Street
Cottingham, Market Harborough
Leicestershire, England
LE16 8XG

CONTACT: Christopher Owen
Susan Hall

This is the company that initiated the production of the type of mannequin final developed elsewhere by the Victoria and Albert's 18th - 19th century mannequin for the Costume Gallery. This was in conjunction with the museum staff.

The mannequin has a high round bust, very small torso and legs. This mannequin is not designed in a corseted style, therefore the correct foundations are essential in order to fit the outer garment. It does succeed in encompassing a large time span and the costumes are safe.

The mannequin is made with long and short legs, small and medium busts and a choice of 3 heads. It is cast in a carvable foam that is covered with a type of thin layer of plaster. This was tested safe by the Conservation Department of the ROM (May 1988) as long as the foam is sealed after it has been carved down. PVC flexible arms and hands are available but are not inert. 25% additional charge is placed upon mannequins that are cast in fibreglass.

COST: @ 350.00 pounds sterling, per mannequin, as is.
Duty and Brokerage are additional.

COMMERCIAL MANNEQUINS: USA AND CANADA

TOKYO MANNEQUIN

135 West 27th Street
New York City, New York

(212) 599 - 1580

CONTACT: Dianna or Miyoshi

This company produces all its models in Tokyo, custom work would take place there. I have discussed the possibility of sending a mannequin here during various stages of creation. This is obviously a time consuming complication.

VAGUE COST: \$700.00 (US Funds)
This model may be good for 20th century costume as it does not have the amazon proportions of most mannequins. I would still recommend some custom work, the minimum being cutting out several inches in the waist-hip area to make a smaller version, as Brooklyn and Cincinnati have done with Rootstein.

Following is an estimate for some custom work by the company.

Existing face and legs.

-flexible elbow joint in order to raise and lower arm to keep proportion with height.

-bar in hip to raise and lower height.

-area at waist to be available to place back on mannequin like Goldsmith, 'Dance' model.

-option of being able to shorten or lengthen legs.

The first model would cost: \$5000.00 (US Funds)
second up to 20 cost: \$2200.00 each

This is for one pose only.

Allow 3 months production time.

This company also produces some excellent children mannequins. These are some of the best suited to period costume that I have seen. They are small and have still poses and the existing faces are complimentary to period fashion plates.

COST: \$ 300.00 - 550.00 depending upon the age. (US Funds)

Several of these mannequins are available in small sizes which would not demand very much alteration.

Male mannequins

FM 162, 163 cost: \$ 700.00 (U.S. Funds)

FMY cost: \$ 600.00

Female mannequins

Student 14G cost: \$ 525.00

Scion, children cost: \$ 300.00 - 500.00

All these prices do not include shipping from NYC. Some mannequins are not in stock and have to be ordered from Japan, allow 2 months for delivery to NYC.

D.G.WILLIAMS

22 West 21st Street
New York City, NY
10010

(212) 255 - 3993

CONTACT: Ralph Oestricher

The McCord Museum uses old D.G. Williams mannequins in their Costume Department.

Brooklyn Museum has been talking to this company for their 1900 model, they are thinking of getting a large size and having some custom work. The company will fill special orders, putting on special heads etc.

PETITE and PETITES II COST: \$ 705.00 (US Funds)
These could be cut down at the waist to make them smaller. They come at 5'6 1/2" which is a good height for 20th century and some 19th but a shorter model would be necessary for the majority of costume. The bust would have to be made smaller on several models.

An abstract head 'Ariel' is available. Realistic heads available with a period feeling are Billie, Val, Vicky, Jennifer. To purchase the head with some neck, to attach to another model, is possible.

COST: \$100.00 per head (US Funds)

BEAU-MALE COLLECTION COST: \$ 705.00 (US Funds)
These are youth sizes.
A straightforward stance, # 4031, creates less difficulties.

ADEL ROOTSTEIN

Rootstein USA
205 West 19th Street
New York City, NY
10011

(212) 645 - 2020

CONTACT: Nellie Fink

They do have a local representative:

Marcia B. Chavannes
210 Dimson Avenue
Guelph, Ontario
N1G 3C8
(519) 824-1592

There is a showroom in Montreal. The mannequins are imported there from England and finished, but they do not have the facilities for more than refinishing. They will not cut or alter the models. This would have to be done in NYC. The company has an excellent reputation.

These contemporary mannequins are popular with several museums for 20th century costume.

Brooklyn Museum
Cincinnati Museum
Fashion Institute of Technology, Surrealism exhibition

All Rootstein cost \$1100.00 Canadian
The Lindsey B. model is \$1500.00

LINDSEY B.

For the Charles James exhibition the factory was around the corner from the Brooklyn Museum so they would carry off the mannequin and point to what they wanted shortened, sawed off etc. This resulted in a variety of heights. The mannequin can be cut down to around 5'2". Below this the mannequin loses all proportion without cutting the arms and legs. The mannequins were cut at the hips and some in the legs. They would not cut the arms down.

The Lindsey B. is not made in North America and has to be ordered from England. Cincinnati did have the company in New York order extra heads which were put on other Rootstein bodies which are smaller.

It is possible to order the mannequins in an unfinished state. This means the mannequins have one coat of paint and no make-up, this is a saving of \$150.00 per mannequin. If one were to have additional work performed or new head put on it would be better to buy the mannequin at this stage of development.

Otto Thieme has purchased about 100 mannequins within the last year. He selected the 18th, and 19th century Wacoal and Rootstein for modern costume. His up-coming exhibition includes no male costume, because the collection is weak in this area and because male mannequins are so difficult.

Mr. Thieme had custom work performed on the Rootstein. He suggests taking several garments to Rootstein showroom and trying them on the various forms. This way the mix-and-match of arms, heads etc could be done at one place and time. This is a technique he did not use, but one which he feels would of saved him time and energy. He has had the abstract head placed on other Rootstein bodies by the manufacturer. This technique created a variety of poses and shapes. The turn around time of this is 3-4 months. Cincinnati ordered the same mannequins and had some cut down to order, this was done locally as it was too complicated to do over distance. Further 'surgery' was performed in house and the cut taped over. This is based upon the Costume Institute's approach. Mr. Thieme also suggests ordering the foot rod as the butt rods do not support the mannequins well. He has a type called a 'star plate' which is very safe and can be secured to the bottom of the case.

All this custom work finally makes the mannequin value @ \$2000.00 +, however it is more workable, and realizes the curatorial problems.

Rootstein may be the manufacturer for the new 18th - 19th century museum mannequin for the V & A.

DECTER

118 East Eighth Street
Los Angeles, CA
90021

11 West Nineteenth Street
New York City, New York
10011

Representative in Toronto: Studio Specialties
39 Orfus Road
Unit B
Toronto, Ontario
M6A 1L7
(416) 787 - 1813

CONTACT: Rick Galaski

Several museums have used Decter because they produce mannequins which have a 1920, 1930's feeling.
Phoenix Art Museum
Los Angeles County Museum of Art

Los Angeles County is using these modern mannequins for their new exhibition. This is convenient for them as this is an L.A. company. The exhibition is on modern costume and Hollywood designs.

Jean Hildreth, Curator of Costumes, at Phoenix uses these for modern costume. The molded hair and stylized features painted bone or white do not require wigs or make-up so make mounting simpler. They use them in conjunction with the Wacoal period mannequins.

Decter are smaller than most mannequins and could be customized or left as is for modern costume.
The company will attach a head to the 'Isadora' dress form, half legs and allow for a rod which can raise and lower. This custom order would take 2 months, and cost \$1500.00 (Canadian funds). The addition of feet and would be an extra cost.
The Petite models are \$1250.00.

HINDSGAUL MANNEQUINS

Hindsgaul Canada Limited
84 Ontario Street
Toronto, Ontario
M5A 2V3

(416) 364 - 5110

CONTACT: Derek Waite

This is a Danish company. The Toronto office is very well known for refinishing mannequins, and painting faces. It is allied to Applause. Applause. which I believe is Derek Waite's own company. It does styling for the major Toronto department stores. They do have a sculptor on staff who can make a custom face, and they can cast it on the premises as well as modify mannequins. They would produce a mannequin from scratch should this be requested. Derek Waite will also unify different models with a single head. He is the distributor for Hindsgaul so pushes their mannequins. Some of the petites may be useful for modern costume. I think he would produce quality workmanship, as he was also recommended to me by a New York manufacturer.

The benefit of working directly with a manufacturer cannot be overemphasised. It is advantageous to be able to do this locally.

Fashion Institute of Technology, NYC, use Hindsgaul for their costume exhibitions which are usually 20th century in focus.

Hindsgaul mannequins to consider:

Ragazza, Regina, Renata and Susila are the smaller female models.

'Kids' may be useful and possibly a male suitable for male 18th century costume.

STUDIO ONE, INC.

74 Leonard Wood Drive
Battle Creek, Michigan
49015

(616) 962-2124

CONTACT: Mike Clark or Jean Clark

This company refurbishes mannequins and re-sells them. They do a lot of custom work. At present they are working with robot talking mannequins.

Mr. Clark is also working with a latex rubber foam which is malleable. It is very sensitive to ultra violet and ozone. He will send a sample here so conservation can test it. The same type of foam is available in silicone which he says is more stable but expensive. We discussed the possibility of using the foam in localized areas, ie lower torso and bust. This would probably produce two colour areas and necessitate a covering for the mannequin similar to that used in the Dior exhibition at the Louvre.

I did send him a xerox of the Wacoal mannequin and he has sent back a drawing for a similar concept thing using standard mannequin parts which he has available. This company is being very co-operative and is interested in this project. They are willing to make a 'signature' head and do have models already available.

Cost depends upon the final order. They have the capability of producing a hybrid as they have so many mannequin parts to draw on. They can cut and reassemble to order and either cast that model or produce others. They are willing to do whatever the Museum would like and are keen to have this contract.

Cost for a simple design.

Mold: \$ 1000.00 (US Funds)
Mannequin at @ \$ 600.00 each

MORGESE-SORIANO CO. LTD.

497 King Street
Toronto, Ontario
M5V 1K4

(416) 596-8151

CONTACT: Nick Soriano

Mr. Soriano owns this business and is a distributor for several mannequin companies. He has had his own line but has not really kept this up so the mannequins are out of date. He is willing to customize his forms and will suit demands. He will fill in eyes and neutralize an existing head form, but cannot make a new head. He will cut his mannequins and place a rod at waist, at the elbow joint and in leg should it be requested. I would recommend a drawing of the form desired prior to ordering it, and a representative on hand.

MALE FORMS Several are available but are large in size. The existing heads are ugly. A new head or abstracting the face abstracted would be preferable. The males have a head which comes off at the neck so a line is present. The hands are rather clumsy. The same custom work with rods is possible.

(I last spoke to him August 18th, 1987)

COST: of mannequins with adjustments @ \$ 800.00 - \$ 1000.00.

BENDIE

530 Edouard
Granby, Quebec
J2G 3Z6

(514) 378-9928

CONTACT: Robert Graves

COST: \$400.00 adult with abstract face
\$520.00 adult with modulated face

These may be ordered through Morgese-Soriano in Toronto.

The Virginia Museum used these in an ethnographic display of tribal costume. They suited this type of costume well and were proportionally the correct size.

They are made of soft foam (polyetherthane) on a flexible spine. They are completely flexible. They are available in male, female and children shapes, real or abstracted faces, and come in varied sizes.

These do not meet conservation standards unfortunately, as the foam emits gases. They would not support heavy costume.

Smithsonian Institution is experimenting with these as models. They pose the mannequin in the required position, this worked very well with a male figure for the 1840's as they pushed the shoulders back to the correct position, then the figure was coated in a surgical tape that dries very quickly and a mold was made. This can be used as the mannequin or a fibreglas mannequin can be cast.

MANNIKIN WORKSHOP

455 King Street West
Toronto, Ontario
M5V 1K5

(416) 593 - 7490

CONTACT: Conn Burke

This company refurbishes, paints and repairs, mannequins and sells them. They are based in Montreal and have begun to produce their own heads and models.

The company is interested in doing business with the museum and will whatever service is wanted. I anticipate that the most useful function would be to shorten torsos, legs and customize purchased models.

They do not have a sculpture but can recommend one to make models. They will cast and produce anything.

ESTIMATES

Cost of mold of head: \$200.00
Cost of attaching head to existing mannequin: \$ 300.00
This includes the cost of paint and refinishing.

Mold of whole mannequin: \$ 500.00
Price per new mannequin: \$ 700-760.00

DRESS FORMS

WOLF FORM COMPANY, INC.

39 West 19th Street
New York City, New York
10011

(212) 255 - 4508/9

CONTACT: Mr. Bruno Ferri, President

Wolf Form is one of the largest manufacturers of commercial dress forms in America, and is used extensively by the fashion industry. The company has its original 1911 dress form and is interested in re-making it. They will sell a copy to the Museum for the cost of production, with no charge for the mold. This is a corseted form and would support garments from this period beautifully. It is also a way of demonstrating corsets and the ideal silhouette that was considered fashionable in its day, as well as its use as a tailor's dummy. It is possible to have it made in a smaller size but this would involve an additional cost for the mold.

COST: \$ 330.00 (US Funds)

They make any dress form to specific measurements as well as standard industry sizes. They do produce children's forms which are interesting. They stand alone on small feet and can have heads and arms. No hands are available.

SEVEN CONTINENTS

1 Atlantic Avenue
Toronto, Ontario
M6K 3E7

(416) 535-5101

CONTACT: Sandy MacDonald

This company is a display house and not a mannequin manufacturer. The dress forms are manufactured in Italy and only limited custom work will be done by the manufacturer. They have a selection of dress forms which are very decorative and meet conservation requirements. The form was tested by the ROM conservation department for a mannikin for "The Eye of the Beholder" exhibition. It is manufactured from polyethylene fibreglas and covered with natural linen.

All models are available with head or a finial and arms of wood. The arms should be sealed with polyurethane before being used. They are difficult to manipulate which can place stress on the garment during the mounting process. Hands are paddle or articulated. I recommend the articulated as they are more flexible, can give gesture, and look less massive.

REGINA

This is smaller female form which would suit 20th century female costume.

A variety of bases and accessories are available.

COST: torso - \$ 150.00
 head - \$ 50.00
 arms - \$ 350.00
 stand -

These are dress forms and should perhaps be used as was done in Paris at the Musee des Arts de la Mode. This was particularly effective for dresses that had elaborate embroidery and textiles.

SUMMARY

The purchasing of mannequins for exhibiting costume is an expensive and complex undertaking. This is compounded by the fact that no 'family' for period and modern costume exists. Ultimately a decision should be reached that considers the scope of the exhibition programme and that suits the staff, collections, overall design scheme, conservation and budget.

In order to mount the variety of size and shape people represent, and are represented in a costume collection, it is necessary to provide an equally variety of mannequins. Not all these mannequins may necessarily be exhibited simultaneously, making storage an additional consideration.

To purchase a commercial mannequin for \$ 1000.00 - 1500.00 and proceed to invest further monies into it with custom work seems overly extravagant and elaborate. However, this is a tried and workable solution to obtain a safe support and a consistent look in a gallery, if a new mannequin cannot be designed. The extent of custom work can be as complex, made to measure for individual garments, or as simple as unifying diverse models with a single head style.

The ROM has an opportunity to design a unique and contemporary costume exhibition mounting programme that is attractive and progressive in its presentation. This can be achieved by drawing from the field those techniques which can best be integrated into the exhibit theme and which meet the physical limitations of the Department. The material can then be presented in a controlled and cohesive manner. The opening exhibition plan which gives emphasis to construction, and technology does not necessarily demand a realistic interpretation of mannequins, as perhaps would a chronological or social interpretation of costume. Dress forms and mannequins presented in an abstract and analytical way, accenting the structure and design can be combined with mannequins displayed in a more interactive and social context.

The popularity of costume exhibitions continues to grow as the field obtains a higher profile within museums. The public demands a highly polished exhibit with strong educational components. For these reasons the mannequins for the Costume Gallery are an integral part of the Museum's profile making the expense and effort involved justifiable.

MANNEQUINS FOR THE DISPLAY OF COSTUME; AN ANNOTATED BIBLIOGRAPHY

The expense and aesthetic problems inherent in the display of costume have produced some highly inventive and creative solutions. Some may be out of date, especially from a conservation view point, but those techniques may spark new ideas. This bibliography is aimed at providing a background to the various techniques and solutions and also includes some articles on the display of two dimensional costume. Information on commercial mannequins both modern and historic tends to become out dated very quickly and is not included. Shopping for commercial mannequins is rather like buying a car as the new models come out at Christmas and keep being modified. Most commercial forms require some custom alterations in order to make them serviceable for a variety of historical silhouettes. This can often be done by the manufacturer or in-house. The best research method is to see exhibitions and contact those institutions and individuals who have experience with various forms. They can tell you where to purchase them as well as the pros and cons of each. Much can be done without fibre-glass mannequins and bibliography hopes to promote new enthusiasm and assistance to those who may be attempting to use costume for the first time or are looking for new methods of display.

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Wilson, Colleen. "Body Building." Textile Conservation Newsletter, (September 1982):8-11.

Description and drawings for making styrofoam stacked disc mannequins.

FEMALE MUSEUM MANNEQUINS

<u>Manufacturer</u>	<u>Bust</u>	<u>Waist</u>	<u>Hips</u>	<u>Height</u>
Wacoal: 18th C	33 1/2"	0	35 1/2"	various
Wacoal: Empire	32 1/2"	20 3/4"	34 1/2"	various
Brosnan-Roe: small	32"	18"	30"	various
Lor Sales: extra sm. (Jerry Roe)	31"	17 1/2"	27"	legs or various
small empire	32 1/2"	17 1/2"	27"	"
Goldsmith: Dance, sm.	27"	0	29"	5' +
Museum Casts: small	23"	17"	? option of legs	
Wacoal: 19th C	32 1/2"	0	35"	various
Brosnan-Roe: large	36"	20"	35 1/2"	various
Lor Sales: sm. Vict.	33 1/2"	22"	31"	legs or various
Victorian	31"	22"	26 1/2"	"
large Vict.	34"	24 1/2"	33	"
1900	34 1/2"	21 1/2"	34"	"
Wacoal: Belle Epoch	39"	0	37"	various
Museum Casts: large	33"	20"	? optional height	
	34"	21"	? optional height	
	34"	24"	? optional height	
Derek Ryman: Alexandra	32"	21 1/2"	35"	5' 4"+
Goldsmith: American	30"	22"	29"	?

MALE MUSEUM MANNEQUINS

<u>Manufacturer</u>	<u>Chest</u>	<u>Waist</u>	<u>Hips</u>	<u>Height</u>
Derek Ryman: Albert	33 1/2"	27"	33"	5' 6"
	45"	37"	43"	6' 11"
Derek Ryman: Rupert	smaller than Albert			
Goldsmith: Dance, sm.	32"	0	31 1/2"	5' 7"+
Dance, lge.	33 1/2"	0	34 1/2"	5' 9"+
Museum Casts: Courtier	35"	?	?	5' 8"+
Lor Sales				
(Jerry Roe): very small		size 14 - students		
small		size 16 - students		
medium		size 18 - collegiates		
regular		size 38 R - the Executives,		
	size 39 R	Casuals, Californians,		
		Collegiates-20		