COAT SPECIFICATIONS
Hard and Soft Collar

1. GENERAL

Due to the unique requirements of a band coat (relative to the number of different wearers, minimum care received, wearing conditions and life expectancy), special patterns, materials, design and construction methods must be applied.

2. PATTERNS

A. Coat patterns are special band uniform patterns with additional "ease" to allow for freedom of movement, wearing of clothing underneath and the convenient re-issue from year-to-year. Fashion or standard patterns do not allow enough room. Merely up-grading to oversized patterns will result in an unsightly and cumbersome fit.

B. Computer generated patterns will provide proper fit for all male and female band members, with no restrictions or limitations as to chest size. Likewise, sizes will be assigned in needed "lengths" from XXS through XXL. Coats will be patterned for EACH even numbered chest size, rather than just generic S, M, L, etc.

C. Patterns are to be marked and graded using a computerized system to insure accuracy and updated patterns.

3. SIZING

A. Measurements will be taken by a factory-trained representative.

B. Sizes are analyzed by a sizing computer system assigning the closest standard proportion size to each wearer in order to permit re-issuing in subsequent years and to provide a reasonable fit for the initial wearer.

C. In the event the initial wearer cannot wear a standard proportion size, a special pattern will be employed to insure a reasonable fit.

4. COAT

A. Coat linings are cut from a separate set of patterns designed to fit each specific coat size and style. Linings are not cut from coat shell patterns then cut down to try and fit.

B. Linings are "FIRST" quality polyester twill, non-toxic, perspiration resistant and preshrunk to washable standards. Linings will have no less than 124 x 72, 150 Denier in both the warp and fill, meeting government specifications.

NOTE: "Patterned" linings of mens fashions fabrics are not durable in the heavy duty uniform usage.

C. The coat lining has a ½" vertical pleat running up the center back. This allows fullness, fit and comfort to the overall performance of the coat.

D. In the armhole area, the coat lining is machine stitched to an ensemble including the outer coat fabric, shoulder pad and sleevehead. Hand sewing or felling does not provide the durability required for armhole construction.

E. Linings are sewn to the coat bottom edge, and reinforced with pre-shrunk tailoring tape. Straight cut long coats will have an additional ½" lining pleat all around the coat bottom.

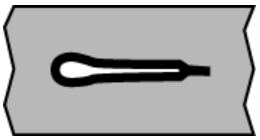
5. <u>BRAID</u> (see #25-B)

Only first quality braid shall be used for trim. Braid trim ¼" or wider, is sewn down with two rows of stitching on looped trims as well as straight line. In addition, looped trim is reinforced with a layer of non-woven fabric, permanently bonded to the inside coat fabric surface to inhibit puckering tendencies.

6. <u>BUTTONS</u>

High-quality metal buttons shall be used where specified and they shall be attached by sewing, ring and washer or toggle and washer.

7. <u>BUTTONHOLES</u>



All coat buttonholes are made with a CUT-FIRST automatic buttonhole machine. The hole is cut first, the edges covered with gimp, then completely sewn to "close" the buttonhole. The buttonhole back is secured and closed with bartack reinforcement. Gimp is 100% cotton glazed #8 and approximately 8 oz., color matched to the buttonhole thread.

8. <u>ZIPPERS</u>

A. Zipper to be heavy duty YKK, 9/16" tape, autolocking pull-slide of brass, or equal.

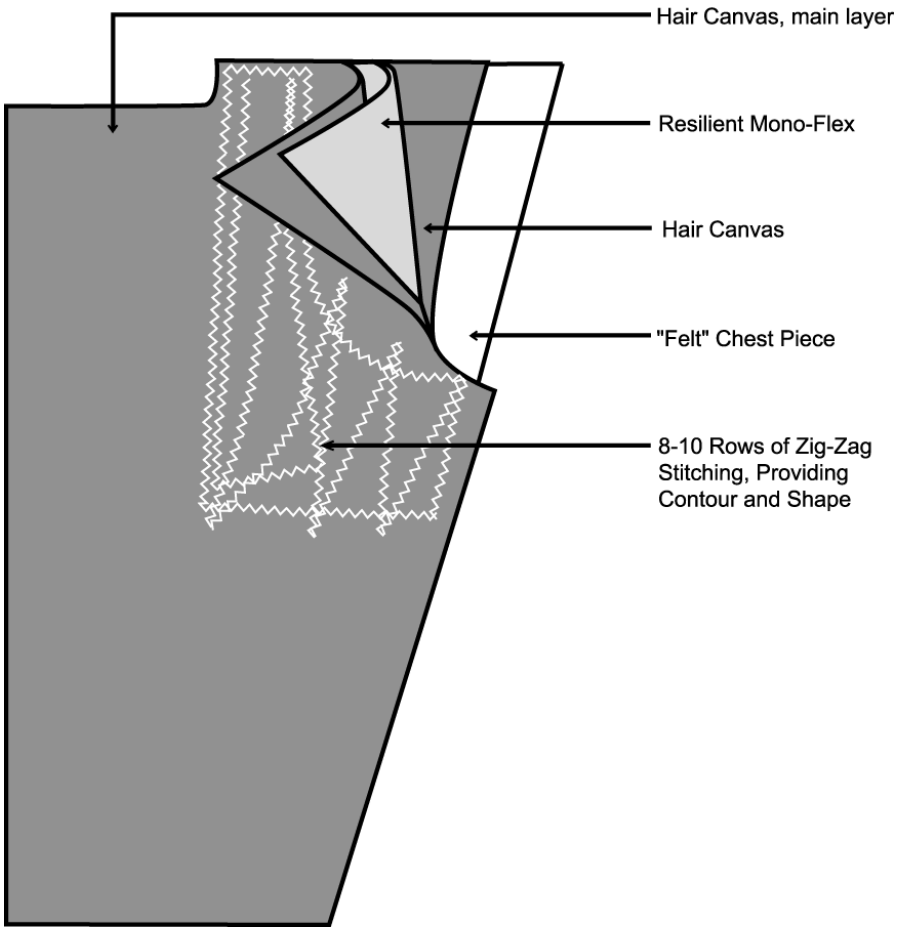
B. Coat zipper tape shall be bar-tacked top and bottom and sewn to the surface of the facing, not sandwiched in between shell fabric and facing.

9. <u>INTERLINING</u>

A. The interlining has optimum four-layer construction. More than four layers creates "STIFFNESS" in the coat fronts, resulting in difficult and uncomfortable arm lift maneuvers in marching bands. Less than four layers results in flimsy construction and therefore a rumpled appearance and reduced durability. In keeping with individual patterns for coat shell fabrics <u>and</u> the linings, higher quality control and an elevated level of haircloth quality is obtained by these multi-layered interlinings being patterned, cut and assembled "IN HOUSE" at the uniform manufacturers facility. This

basic construction practice enhances the fit and comfort of the individual uniform (as opposed to "making do" in purchasing these multilayered ensembles and cutting them down to fit the "hundreds" of patterns required for each coat style and chest size).

Coat Front Interlining



B. The main layer of the interlining is a Hymo haircloth. This "hair canvas" is 35% genuine natural hair, 47% rayon and 18% polyester fibers. It is sanforized and double pre-shrunk with A.V.S. water repellent application. This canvas is 100% soakable with no shrinkage nor loss of rigidity. The layer extends the complete length of the coat front, from shoulder seam down to the coat bottom.

C. The second layer is a resilient 27.6% rayon/72.4% polyester canvas "MONO-FLEX" chest piece 4.2 oz in weight. Its dimensions are 6" wide x 6 ¾" long and extends downward from the upper chest area.

D. The third layer is another piece of hair canvas (as per "B" above) 8" wide and 12" long, extending downward from the upper chest area, and completely covering the MONO-FLEX.

E. The fourth layer is a ¼" thick padding of 3.6 ounce 100% polyester non-woven material that is soakable and non-shrinkable. This white chestpiece pad extends approximately 6" below the armhole.

NOTE: In white coats and other light color fabric shades, a piece of thin Poly-sil white curtain is added to prevent "shadowing" of the haircloth interliner through the outer coat fabric.

F. This entire multilayered interliner shall be sewn together with a series of eight to ten rows (depending on chest size) of zig zag stitching spaced approximately 1" apart. This is the optimum number of rows as recommended by the garment industry standards. Too many rows will reduce the flexibility, comfort and fit. Too few rows will limit durability and lifetime.

G. The interliner is then secured to the coat shell fabric and coat lining, in the neckhole, armhole, bottom front and along the coat closure edge. A tailoring tape is included in these seams for added durability. The interliner is NOT sewn into the shoulder seam nor the side of the coat. This allows flexibility and "give" to the entire coat front construction.

NOTE: All tailoring tape is 100% PIMA cotton and triple cold water shrunk.
Fused front interliners are not acceptable.

H. On soft collar concert/blazer coats the lapel portion of the canvas shall be padded to the lapel section of the coat with a series of multi-rows of blind stitching at close intervals no more than ¼" apart. This section shall be hand shaped and a ¾" cotton bridle tape shall be applied by two rows of blind stitch to insure body contour, permanent lapel shape and reinforcement to prevent stretching.

NOTE: The above construction is a time proven, traditional procedure. Under no circumstances are the haircloth and sewing operations to be substituted with a fusing or gluing operation. Certain areas of the coat should have a small reinforcement piece of pellon fused to the outer fabric. These will be designated and detailed later; they serve as essential parts in the overall durability and appearance of the garment. However, as previously stated, the large chest pieces and foundation interlining must NOT be fused.

10. ARMHOLES

A. Armholes shall be oval shaped and allow sleeve to be pitched forward 3-4 degrees to maximize comfort and ease of movement with minimum distortion to the coat.

B. The armhole shall be reinforced with ¼" pre-shrunk cotton tape all around to prevent stretching in the armhole.

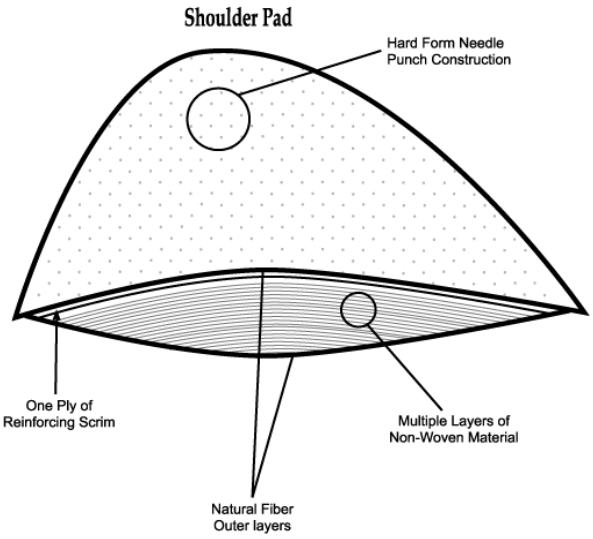
C. The entire armhole shall employ machine lock stitching. Hand or machine "felling" will not be accepted.

11. SHOULDER PADS

A. Shoulder pads shall be high quality, dry-cleanable and non-absorbent.

B. Shoulder pad size shall be minimum 9" long x 4 ½" wide on regular width coat styles. Special "extended width" shoulder coats will have a larger shoulder pad measuring 9" long x 6 ½" wide.

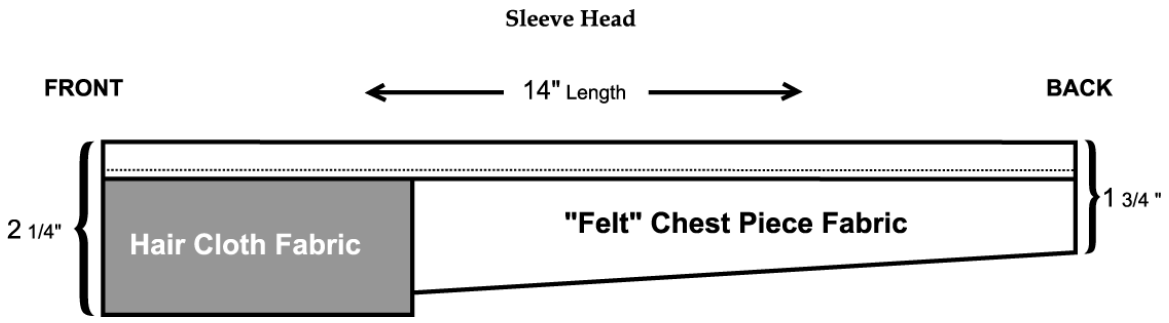
C. Shoulder pads are a "hardform" construction, consisting of several layers of non-woven material. The layers are permanently attached together with a "needlepunch" process. Among the layers, near the top side, is a reinforcing ply of scrim, which adds dimensional stability to the assembly. A final layer of natural fiber is applied as a covering. The shoulder pads are guaranteed for the lifetime of the garment. Dry cleaning is recommended, but the shoulder pad is also compatible with water.



D. Shoulder pads consisting merely of PIMA cotton covered with a porous fabric and held together with loose basting stitches, will not endure the many years of dry cleaning, exposure to the elements and the demands of marching band wear. The tendency is for a "wadding" of the cotton core. This type of shoulder pad is NOT acceptable.

12. SLEEVE HEADS

This provides fullness and shape to the top of the sleeve as it is sewn to the coat body. It consists of a separate strip of material used for the white chestpiece pad of the interliner (9E). The sleeve head has a length of 14" and is equally positioned over the shoulder, to the front and back of the upper sleeve seam. The finished width is 2 ¼" at lower front, and tapers to a 1 ¾" width at lower back. The construction consists of a ¾" turnback on the armhole edge, and has a seam spaced ½" from the edge. Sewn into the lower front portion of the white pad strip, is a 2 ½" x 4 ½" piece of "haircloth" as described in the Interliner section (9B). The result of this "IN HOUSE" manufactured sleeve head is a substantially improved "body" in the entire sleeve/shoulder area, particularly when lettering or other embroidery trim is specified.



13. SLEEVE STITCHING

A. Sleeves shall be set with machine lock stitch to insure proper distribution of fullness and durability.

B. Fullness shall be sheered in by top-feed sewing machines.

14. ARMHOLE LINING FINISH

A. The bottom of the sleeve armhole shall be lock-stitched through two layers of lining, two layers of fabric and armshield.

B. The top shall be sewn through the coat lining, sleeve fabric, sleeve head, shoulder pad and shoulder strap with lock stitching.

C. The entire armhole has tailoring tape all around.

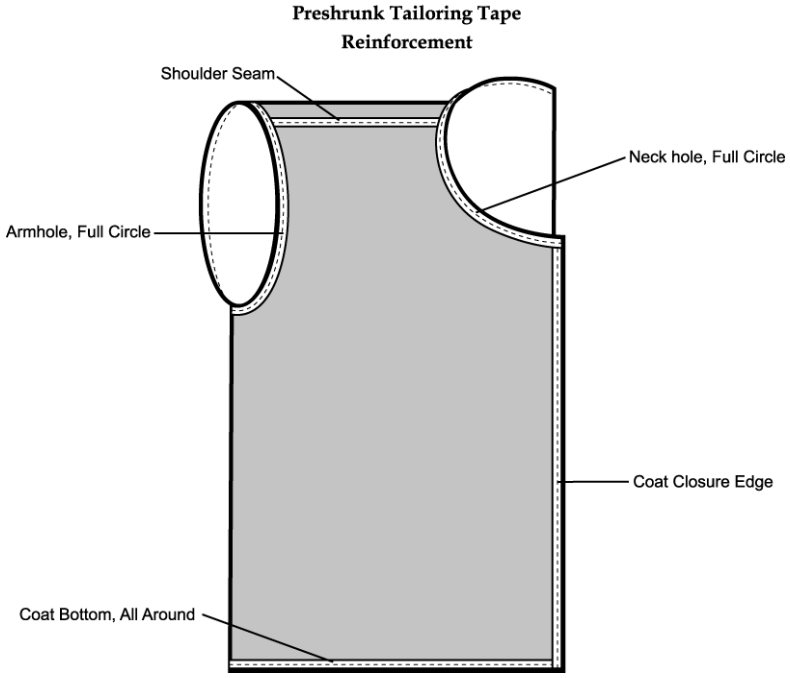
D. "Felling" by hand or machine is not acceptable when closing the armhole.

15. TAPING

A. All seams in high stress areas are reinforced with tailoring tape to prevent stretching, and add durability to the seam. These tapes are pre-shrunk.

B. Areas of this taping procedure include the following:

1. All around the neck opening where collar joins the coat.
2. Coat closure edges and completely around the bottom.
3. Complete circumference of the armhole.
4. Shoulder seams from collar (neck opening) to sleeve seam - except canopy coats.



16. POCKETS

A. All inside pockets shall be constructed with a pocket welter and shall be reinforced with a non-woven fabric.

B. Pocketing material shall be 80/20 poly cotton, 100% poly fill, pre-cured finish, 3.05 YPP, 78/54 twill weave.

C. Upper and lower welt of the inside breast pocket is to be 100% polyester material and pellon backed.

D. Pocket bag shall be constructed on one piece of pocketing with no open seams at the bottom.

E. There shall be a tack at each end of pocket opening through all layers of pocketing. Tacks shall be concealed.

F. Pockets made of lining or lightweight material shall not be acceptable.

17. SLEEVE CUFF TURN UP

A. Sleeves cuffs will have an approximate 2 ½" turnup, which incorporates both the coat sleeve fabric and lining. This turnback includes a 3/8" binding at the top edge.

B. Sleeve length alterations are accomplished by removing the blindstitch and re-sewing at the desired length.

18. SLEEVE CUFFS

A. Sleeve cuffs without trim in the cuff area are reinforced with a 5" width of non-woven material, bonded permanently to the inside of the coat fabric. As the sleeve is then turned back to form the let-out feature, this non-woven layer is equally divided to finish 2 ½" in the outside cuff edge, and 2 ½" on the inside. This procedure provides body to the sleeve cuff bottom edge, and maintains a full rounded finish.

B. Sleeves with extensive cuff trim (appliques, inserts, looped braid designs, embroidery) are given the same reinforcement layer of non-woven material, but this layer is extended an additional 12" up toward the elbow area. This addition prevents puckering tendencies created by use of fabrics, braids, etc. which each have different coefficient of stretching.

C. Shoulder lettering and embroidered logo trim have a reinforced backing layer on the inside of the sleeve.

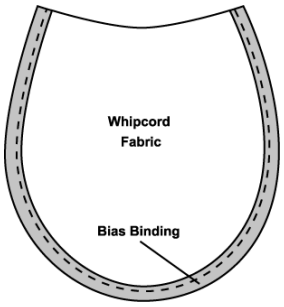
19. ARMSHIELDS

A. The armshield is engineered to minimize the long-term effects of perspiration over the lifetime of the garment. Perspiration consists of moisture, salts, weak organic acids

and body oils. A whipcord fabric having WICKING properties is specified for use as the armshield. ("Felt-like" fabrics that retain perspiration are not in the best interest of the garment). In addition to the wicking property, this whipcord shield has soil release, high permeability for airflow, and exhibits rapid evaporation.

B. The armshield is approximately 4" x 4" in dimension, bound with double folded bias rayon on both sides and the bottom, then machine sewn into the armhole.

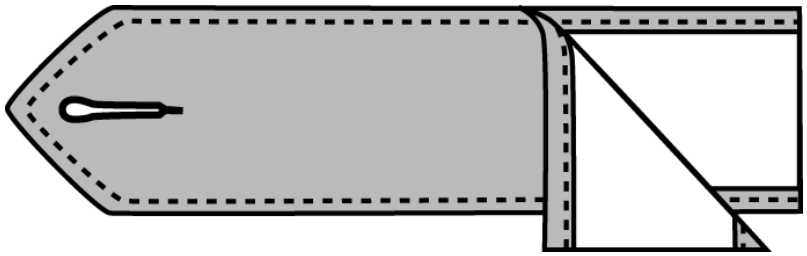
C. Tensile strength and resistance to abrasion are additional advantages of whipcord armshields as compared to a "felt-like" material. The minimum abrasion quality is 10,000 on the STROLL FLAT test.



20. SHOULDER STRAPS

A. Both the upper and lower layers of the shoulder strap are innerlined with permanently bonded, non-woven material. This four layer ensemble is secured with an inside hidden stitch then top-stitched all around the edge, set in approximately ¼". These layers are die-cut to insure exact conformity in shape and size, throughout the lifetime of the garment.

B. Buttonholes are the CUT-FIRST style, having all raw edges reinforced with gimp, then solid stitching as described earlier in the Buttonhole section (item 7).



21. STANDING HARD COLLAR

A. Collars are one of the highest stress areas in the coat. The following construction process and features are the standard for the industry. Deviations and shortcuts will exhibit a lesser quality. The collar and matching removable collar liner are cut from curved patterns. This allows a front "drop" to fit the downward front slope of natural human body configuration. These items are NOT to be cut in a straight pattern.

B. From the inner collar lining to the outer coat fabric, there is a total of six layers in this quality collar construction. From inboard to outboard, these layers are:

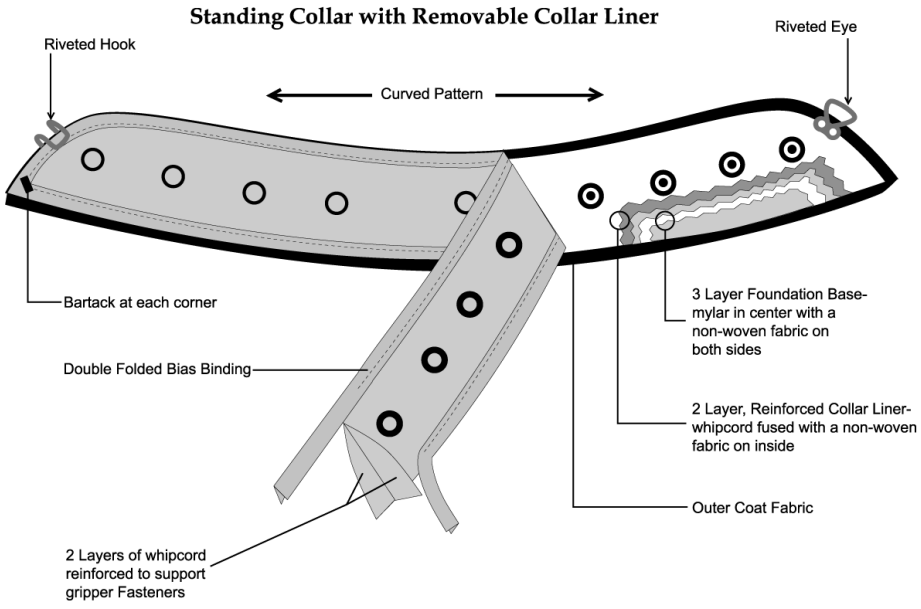
1. Collar lining of whipcord fabric-same as the Armshield section (item 19) for durability, wicking and tensile strength.
2. Non-woven material, permanently bonded to inside of collar lining, allowing a double layer for reinforcing the nine gripper fastener posts.
3. The next three layers consist of the heavy-duty mylar foundation base, which has a layer of non-woven, permanently bonded fabric to **EACH** side of the mylar. This triple layer foundation base is bound all across the top edge with a double folded, non-woven fabric tape, with stitching through and through.
4. The sixth layer is the outer coat fabric, which is that portion of the collar being readily visible.

C. The remaining three layers of the collar assembly consists of collar lining, bonded non-woven reinforcing layer and the outer coat shell fabric. These layers are sewn to the top edge of the triple layer foundation base. The outer coat fabric layer is cut to allow a double beaded fold over, along the top edge of the collar.

NOTE: All stitching and seams are "internal" and NOT visible.

D. A heavy duty, nickel hook and eye hardware set, is permanently riveted through the inner five layers of the collar assembly (omitting the outer coat fabric), the hook at the right front with the eye at the left. This hardware is set at an angle to establish "tension" which keeps the hardware in a closed position, secured by its own weight.

NOTE: The entire sewing operation in the construction of the collar is "machine-sewn". Hand sewing simply cannot insure the required durability.



22. COLLAR LINER (REMOVABLE)

A. This removable liner is constructed of two layers of whipcord fabric having a double folded bias binding tape all around the entire liner. A bartack is added at each end. This liner fabric is the same as used to make the armshields and collar lining. That is, it has properties of soil release, wicking, durability and breathability. The positioning of the gripper snap sets, provide for the liner to extend 1/8" above the top edge of the collar. This affords protection from perspiration, cosmetics, etc. getting into the collar fabric.

B. There are nine, nickel plated gripper fastener rings set into the removable collar liner. These are positioned to match nine gripper fastener posts built into the inside collar lining. The collar and liner are patterned having the top edge of the collar with a smaller circumference arc than the bottom edge of the collar. This results in an engineered curve to the collar ensemble, to better fit the shape of the neck and chest "drop" of the human body.

C. Each collar liner is cut from its own sized pattern, to fit the intended coat size. Since the collar liner is washable, a "laundry-proof" permanent number is imprinted on the inside back portion of the liner. The number matches the identification number of the coat.

23. "WRAP" COAT COLLAR

The standing collar on the wrap style coat is "soft", in that there is no inner layer of stiff mylar. This collar generally measures 1 ¾" finished width. The inside lining is a coat shell whipcord having a permanently bonded layer of non-woven fabric to reinforce the collar. The outer layer of the collar is also a coat shell whipcord, having a reinforcing layer of monoflex (resilient canvas of 27.6% rayon/72.4% polyester – 4.2 oz. weight) stitched in. This results in a reinforced "soft" collar having four layers. All exposed edges are turned inward with an invisible row of stitching. A visible row of topstitching is added all around the edge. There are no exposed, rough edges.

24. SOFT COLLAR

A. Soft collar lapel coats shall have ¾" non-bias bridle tape blind stitched to the canvas and through the back side of the outer shell of the garment so the lapel will roll and

stay in a permanent position. The bridle tape will be worked in approximately ½" to give proper curvature over the chest area.

B. Lapel coats are to have not less than seven (7) rows of blind stitching, catching the canvas and outer shell, applied under curved tension, giving fullness to the lapel for proper roll and permanent shape.

C. Non-bias ¼" cotton tape shall be applied on the leading edge extending from the base of the collar down the front and around to the edge of the canvas.

D. One-half inch 2-way fusible tape shall be used to secure facing to coat front for added stability and appearance.

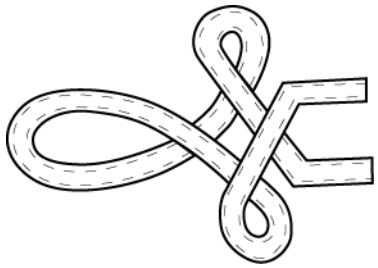
E. The under collar is to be made of a double-thickness under-collar cloth.

F. All edges shall be topstitched (with the exception of satin lapels) through and through, from the facing edge through coat front lapels and collar to the opposite edge. Topstitching shall be 1/8" from edges as with welt pockets and pocket flaps.

25. COAT TRIM

A. All trim must be sewn to the outer coat fabric before the lining and interlining are joined to the coat. Trim sewn through the interlining and lining is not acceptable.

B. Braid trim of ¼" or wider is sewn down with two rows of stitching. This includes looped trims as well as straight line. In addition, looped trim is reinforced with a layer of non-woven fabric, permanently bonded to the inside coat fabric surface, to inhibit puckering tendencies.



26. SPECIAL COAT STYLES

A. Certain coat styles will require a "Memory Recovery" system across the upper back and shoulders. This includes coat backs with bi-swing pleats in each upper back sleeve seam, and an inverted pleat style having a bi-folded expansion "pocket" in the center back seam, at the upper shoulder level. The seamless canopy style coat also requires this "Memory Recovery" system, due to the under construction across each shoulder.

B. The Memory Recovery system is a 2 ½" wide panel of heavy duty light weight elastic, made of 90% (70 denier) nylon and 10% (140 denier) Spandex. It is sewn into each

sleeve seam in the coat back area, and extends fully across the coat back. When the wearer of this coat style is in an arms down position, the system is relaxed. During an arm lift maneuver the entire coat back experiences stress and pulling across the shoulders. The Memory Recovery system brings the various fabrics, folds and coat parts, back to the original "EASE" position when arms return downward. This entire process prevents unsightly bulging. The durable elastic panel is included in the manufacturers warranty.

27. SEAMS

The center back seam and side body seams shall be 5/8". Seams are to be plain with a minimum of 1 ½" total outlet in the side body seams and ¾" in the back seams. Coat is to be completely machine stitched except in areas where tailoring or appearance necessitates other methods. The ends of all seams and stitching shall be back-stitched not less than ¼". Thread breaks of all stitch types must be secured by stitching back from break ½" to 1". Coat is to be tailored with a four-piece back, comprised of a center back seam and two additional back body seams curving from sleeve seam downward and running out the coat bottom. Two-piece backs are also available as a buyers option, for a "sack" style coat.

28. THREAD

There shall be different types of thread used in various operations depending upon the need for strength, fullness, elasticity and smoothness. Padding of lapels and sewing of the bridle tape is to be done with three-cord cotton mercerized thread. Other sewing operations use perma cord size 50, two-cord thread. All threads used are to be heat resistant, vat dyed, sunfast, dry cleanable and moisture proof. In areas of multiple color trim panels, a monofilament thread may be indicated. This thread is a 330 denier and has a .008 diameter rating. The manufacturers warranty includes all threads used throughout the uniform construction.