Singer Sewing Skills *reference book*

published by **SINGER SEWING MACHINE COMPANY**.

Forward

A family well clothed and a home well-appointed are responsibilities of every homemaker. To know and to recognize good construction in clothing and fabric furnishings largely determine how much you value is bought with every dollar spent. Savings are greatest when sewing is done at home, if done well. The SINGER* Sewing Skills Course is designed to create an awareness of good quality workmanship and to teach the simple procedures for attaining better results in sewing.

A thorough understanding of sewing together with skill in performance create a well-made product whether it be a dress, coat, suit or one of many fabric furnishings for the home.

There is no component I'm sewing more important than the stitch itself. When the stitching is flexible and strong, the garment has greater durability. When surface stitching is perfectly blended to the fiber and texture of the fabric it has beauty. Dependable equipment influences the success and quality of every selling venture.

Owners of new SINGER* Sewing Machines, sewing with the finest equipment, experience many advantages. The smooth operation of the machine and the absolute control of stitching speed enable them to produce better–guided stitching, straighter seams, greater exactness in assembling sections of the garment, and more beautiful buttonholes, pockets and decorative details.

The wide selection of needles enables the Singer owner to quickly adapt the sewing machine from stitching the most filmy weights of fabric to stitching tough, heavy, rugged fabrics. Tension, pressure, and length of stitch are regulated simply and easily to compensate for changes in weights and textures of fabrics. Perhaps no other single sewing machine is called upon to stitch a greater variety of fabrics than one used in the home. Its simple flexibility is the secret of its usefulness and performance.

Skillful, high quality sewing is within the scope of every person. Once a few simple, basic principles are learned, it is only a matter of practice until the skill developed that makes sewing a pleasure. Good sewing habits are reflected in everything that one makes and are easily developed when attention is deliberately directed toward them.

The SINGER Sewing Skills Course provides time for both instruction and practice so that good so sewing habits are correctly implanted.

The scope of sewing is broad and its rewards are great, both in savings and in the pleasure of achievement. No one knows everything about sewing, nor does one ever learn enough, for there are always new ideas, applications and methods that present a challenge because of the constantly changing fashion picture, the new discoveries and developments in the textile industry, and the advancements in equipment design. The SINGER Sewing Skills Course has as much to offer people who already sew as it offers those who are eager to learn to sew.

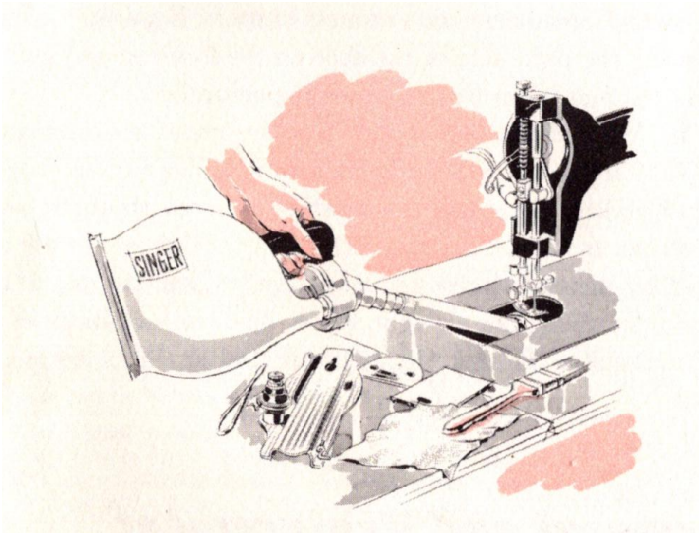
SEWING MACHINE PRINCIPLES

Sewing Machine Care

THE KNOWLEDGE AND CARE with which the sewing machine is handled determines to some extent the pleasure and satisfaction in its use as well as the service that it renders. Many fabrics, when sewed, drop lint and particles of filler. These, with dust and moisture from the air, all work together on the sewing machine to create a film that is best removed from time to time. A good craftsman is meticulous in the care of her tools.

When the sewing machine is used all day and every day, it should be *oiled every day*. When used less continuously, a weekly oiling is usually adequate. Oil is never placed on the machine before the dust and lint are removed. The sewing machine instruction book carries diagrams and procedures for oiling the machine being used. It is best to devote some study to these diagrams while the machine is new to avoid overlooking any of the points indicated. Oil keeps the sewing machine running freely, prevent friction and wear.

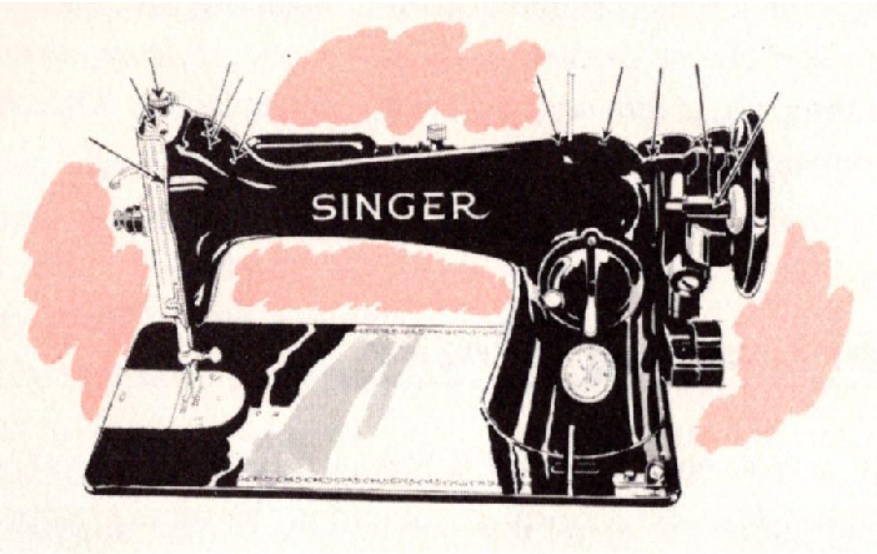
Removal of Dust and Lint



EXPOSE THE MOVING PARTS of the sewing machine by removing the throat plate, the face plate and the slide plate. The lint and dust particles are best removed with a small brush reserved for cleaning purposes. The SINGER* hand vacuum cleaner is invaluable for taking away the dust and lint that eludes the brush or that is merely dislodged by it. The round cover plate at the back of many machines, when turned upward, reveals working parts at the top of the upright arm that require dusting and oiling. Several other machines have cover plates underneath to protect the moving mechanism. To reach these oiling points at the base of the

machine, remove this cover plate as well.

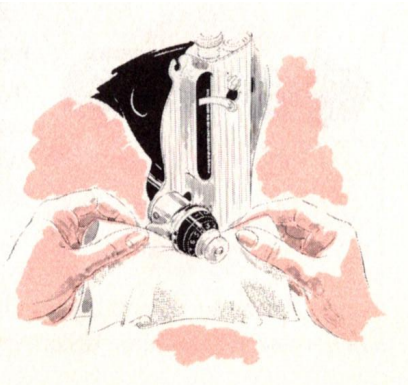
General Rules for Oiling



THERE ARE SEVERAL general rules for oil and fall SINGER Sewing Machines. Always use SINGER* oil on SINGER Sewing Machines. The lubricating qualities are right for your machine and there is no harmful residue formed when the machine is idle. Remove dust and lint before oiling. Oil the sewing machine thoroughly following the diagrams in the Instruction Book, point by point, until every oiling point is completely familiar. Do not *drench* the machine with oil. One drop at each oiling point is usually sufficient. However, where there is a wick to hold and dispense the oil several drops are used. Oil holes in the enclosure of the machine are provided for bearings which cannot be reached directly. Arrows indicate oiling points where metal works against metal and where oiling is so important to reduce friction. Oil is placed sparingly on the threads of all adjustable thumb screws to keep them working freely.

Several machines have gears that are lubricated instead of oiled. Such gears are clearly indicated in the Instruction Book diagrams. SINGER* lubricant is furnished with new SINGER Sewing Machines and is available separately at any of the more 1600 SINGER SEWING CENTERS in the United States and Canada. Here, specially trained people are available to render service. It is often and economy to call for periodic service by a Singer Representative.

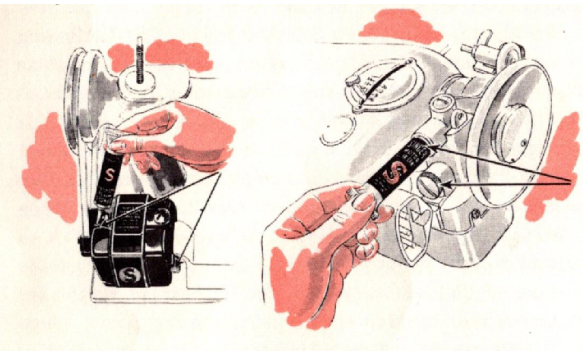
Remove Excess Oil



WHEN THE MACHINE has been thoroughly, but sparingly oiled, run it slowly for several minutes to allow the oil to work into the moving parts. Then remove the excess oil with a clean cheesecloth, or a soft lintless fabric. Learn to pass the folds of cloth between the tension discs to polish them and to remove any dust, lint or oil that might have found its way there. Learn to avoid catching the fine wire take–up spring in the cloth when polishing the tension discs. Each thread guide and fabric plate must be polished with clean cheesecloth to remove any accumulated dust, lint or oil. The area around the presser foot and needle where both the pressure bar and needle bar leave

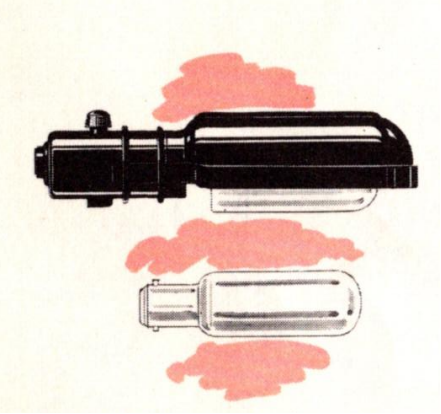
the heavy enclosure of the arm of the machine are often flowing with excess oil unless care was exercised when oiling. Remove both presser foot and needle and with a clean cheesecloth wipe all the excess oil from this area. Polish the pressor foot and needle before replacing. Thread the machine and stitch until the thread is clear of oil.

Lubricating Motor



THE MOTOR on the SINGER Sewing Machine is never oiled. SINGER motor lubricant is placed in the tubes or cups that carry lubricant to the revolving shaft and gears. Motor lubricating tubes are to be filled with fresh lubricant twice yearly when the machine is used moderately. Motors equipped with lubricant cups require attention only once yearly. The old lubricant is removed before filling with fresh lubricant. SINGER* motors are especially built for the machines they power and give long trouble-free service with a minimum of attention.

Removal and Replacement of Bulb in SINGER LIGHT



THE SINGER* light will focus a soft clear light on the needle point and the presser foot, preventing eyestrain and making skillful, careful work easier to produce. While the bulb is of long burning filament, occasionally it must be replaced. The bulb is of a bayonet and socket type and does not unscrew. To remove lamp, press the bulb into the SINGER light socket and, at the same time, turn it a quarter turn away as you sit in sewing position. Several models are you equipped with a SINGER light on which the lens encloses the bulb. The separate instruction book for each model machine clearly indicates the removal of the lens prior to removing the bulb. The new bulb is replaced by pressing it into the socket and then turning it a quarter turn toward the operator.

Speed Control and Posture

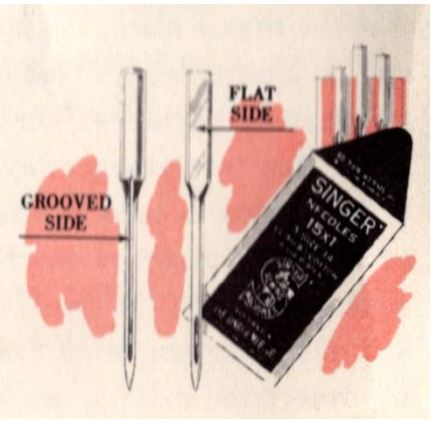
YOUR POSTURE, when seated at the machine, has a direct influence on your comfort as well as on the results in sewing. Sit squarely in front of the machine with both feet flat on the floor.

When controlling the machine with the knee lever, sit so the knee comfortably engages the lever. Most cabinet model sewing machines are equipped with an adjustment that permits moving the lever to the right or left to suit the

operator. Some prefer to use the foot control and all current machines have a knee lever also permit the alternative of a foot control, as well. The speed control is built to produce steady even stitching that is accelerated or retarded as the pressure on the controller is increased or decreased. In using the foot control, steadiness and evenness of speed is gained through balancing the right side of the shoe on the foot rest and gently tilting the foot inward to depress the controller.

A full range of gradual speeds it's at the operator's command. This skill of be operator in home sewing is more often judged by her ability to control the machine at even rhythmic *slow* speed than by her ability to stitch rapidly. High speeds are attained by merely depressing the controller and are important only for stitching long straight seams. The fine careful detail of beautiful clothes is most often done at slow rhythmic speeds.

Removal and Replacement of Needle



AMONG the simple sewing machine facts that everyone should know is that of setting a needle correctly. All sewing machine needles are not the same. They differ mainly in length, size of the blade and eye as well as in workmanship and quality. Always purchase SINGER* needles for use in a SINGER sewing machine. SINGER needles are manufactured with the greatest care under strictest manufacturing limits and are superior in quality, durability and performance.

Sewing machine needles characteristically have a shank one side of which is rounded, the other, flat. The blade of the needle carries a long groove on one side and is rounded on the other. The long groove down the blade of the needle, on the opposite side from the flat shank, protects the thread as the needle carries it downward. Therefore, the long groove always faces the side from which the needle is threaded.

If, when setting the needle, the groove is not placed in this position, the machine will not form the stitch. When threading and unfamiliar machine, the direction for threading can be quickly determined by locating the long groove with the fingernail and threading from that direction, and in addition a thread guide is always located above the needle on the side from which the machine is threaded.

Some machines thread from front to back, others from left to right and still others from right to left.

The needle clamp is so designed to hold the needle securely and to control the height to which the needle can be set. It is important to set the needle into the clamp as high as possible and then tighten the thumb screw securely. If set to improper height the machine will skip stitches. A bent needle will cause the fabric to draw to one side feeding in a curve rather than a straight line. A needle too fine for the thread will cause the thread to fray. A blunt needle will cause pulls in the fabric. It is a good practice, when a stitching problem occurs, to check the threading, and then

replace the needle, if necessary. It is most convenient, therefore, to have a full supply of all sizes of needles on hand to meet all needs.

Preparation for Stitching

Selection of Needle and Thread

THE SELECTION of both needle and thread is based on the fabric to be stitched. The Fabric, Thread, and Needle Chart given below will be a helpful guide for this selection. The thread must blend with the fabric in color, fiber, and size. Silk is stitched with silk. Wool, an animal fiber, is also stitched with silk, an animal fiber. Cottons are stitched with cotton or mercerized thread. Rayon fabrics with a sheen are most often stitched with silk, while those with a dull surface, or of the spun yarn type are often stitched with mercerized thread.

The synthetic threads now appearing for use in home sewing vary somewhat in properties. Their greatest advantages are found in their fine sizes yet great strength and in their uniformity of diameter. While selections are somewhat limited, colors are becoming more numerous and uses broader.

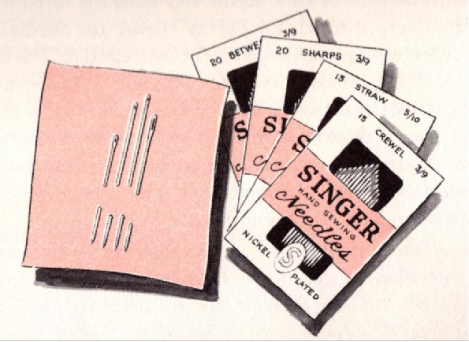
The size of the thread must blend with the fabric when stitched. A “too heavy” thread will remain on the surface of the fabric and will give shorter service and less strength than a finer thread that imbeds itself into the texture of the fabric. The thread that is “too heavy” and remains on the surface, is weakened by the friction and abrasion to which it is subjected when worn.

The needle is selected with consideration for both the thread and the fabric. The eye of the needle must be large enough for the thread to pass through it freely. The blade of the needle must be fine enough not to mar the fabric with a large puncture, yet heavy enough to pierce the fabric without being bent or deflected. The Fabric, Thread and Needle Chart is a practical guide to needle selection.

FABRIC, THREAD AND NEEDLE CHART

Types of Fabrics	*Thread Size*	*Sewing Machine Needle Sizes*	*Machine Stitches Per"*		*Hand Needles*
			Inside Seams	*Top Stitching*	
Filmy Materials Comparable to Net-Marquisette-Silk Organdy-Chiffon-Ninon-Nylon Sheers-Silk Velvet	100 Cotton 00 & 000 Silk 000 & 0000 Mercerized	9	15-20	20-30	10
Sheer Materials Comparable to Lawn-Dimity-Synthetic Sheers-Paper Taffeta-Pure Silk-Silk or Synthetic Tricots-Synthetic Velvets and Satins-Nylon Crepes	80-100 Cotton 0 Silk 00 and 0 Mercerized Nylon	11	12-15	15-20	9
Lightweight Materials Comparable to Gingham-Chambray-Percale-Broadcloth-Sheer Linen-Synthetic Dress Crepe-Sheer Wool Crepe-Taffeta-Silk Surah	60-80 Cotton A or B Silk A or 50 Mercerized	14	12	15-18	8
Medium Lightweight Materials Comparable to Pique'-Poplin-Faille-Bengaline-Wool Jersey-Dress Linen-Featherweight Suiting-Cotton Tweed-Fashion Denim	60-70 Cotton A or B Silk A or 50 Mercerized	14	12	15-18	7 or 8
Medium Heavy Materials Comparable to Crash-Textured Drapery Fabrics-Cotton Velveteen-Heavy Corduroy-Coating-Suiting-Unbleached Muslin and Sheeting	40-50 Cotton B or C Silk Heavy Duty Merceried	16	10	12	6
Heavy Materials Comparable to Sailcloth-Sturdy Denim-Ticking-Coatings-Drillcloth	30-40 Cotton Heavy Duty Mercerized	18 or 19	8	10	4 or 5
Very Heavy Materials Comparable to Canvas-Duck-overcoating	40-60 Linen 20-24 Cotton D or E Silk	19 or 21	6	8	3
Plastic Materials	50 Mercerized	11	10	12	—-

Selection of Hand Sewing Needles



HAND SEWING NEEDLES are selected for size according to the weight and character of the fabric. The type of needle is governed by the stitching to be produced. Where multiple stitches are woven onto the needle as done in basting, hand shirring, overcasting and similar stitching, the **Straw** or **Milliner's** needle is used. The long, slender, round eyed needle produces better results because of its length, slender shaping and flexibility.

Where fine, short, "invisible" stitches are required a very short needle is used. The "**Between**" is the very short round-eyed needle of the type used by Tailors to produce short, sturdy invisible stitches that are a mark a good tailoring.

The all-purpose, or "**Sharp**" needle is of medium length, round eyed and it is made for general usage.

Gaining in popularity is the **Crewel** Needle that is similar to the "**Sharp**" needle in length, but is designed with a long oval eye for easy threading and for carrying multiple strands, as used in hand embroidery.

The "**Darners**" are long needles with long oval eyes and are designed to carry multiple strands and permit many stitches to be woven onto the needle with a single stroke.

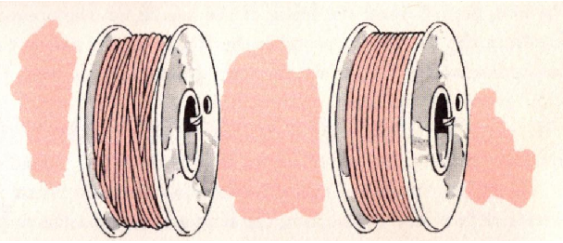
Upholstery needles are curved and are made to use when stitching into a cushioned surface. The curved needle rises out of the cushion with each stitch, thus accomplishing stitching that would be difficult, if attempted with a straight needle.

A sewing box supplied with all types of hand sewing needles as well as a full size range of both hand and sewing machine needles is a convenience and a step toward better sewing results.

Selection of Pins

PINS as well as needles deserve attention in their selection. Pins used for sewing always should be kept separate from household pins, since they become burred and blunt from their variety of uses. Pins used for dressmaking should be the fine, slender "silk pins" with a needle-like points and smooth blades. Some fabrics our best pinned with needles to avoid marring their surface. Satin, taffeta, velvet and most of the luxury silks require gentle handling and pinning with needles, or pinning within a seam or dart allowance.

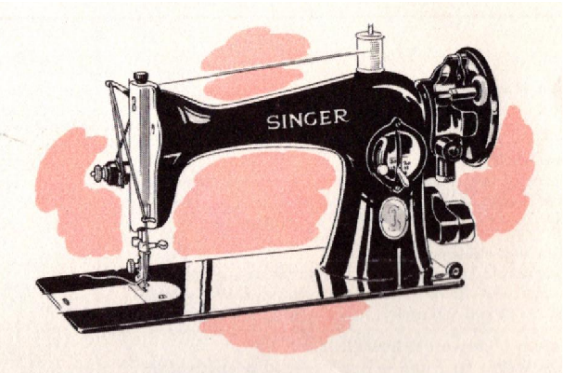
Winding the Bobbin



THERE ARE GENERAL RULES that apply to the threading of all SINGER Sewing Machines. The bobbin is filled with a thread identical to that used for the upper threading. It must fill in level layers and must not "spill" over the sides of the bobbin. Always empty the bobbin of other thread before filling so that the thread can be started on the bobbin by passing the thread end through the eyelet on its side. This method provides even handling of the bobbin thread to the very end, and is important because the quality and regularity of the stitch is influenced by the free flow of the thread from the bobbin. Careful storage of the supply of bobbins prevents them from being bent out of shape. A bobbin with bent sides will unreel with alternate heavy and light tension causing an irregular stitch.

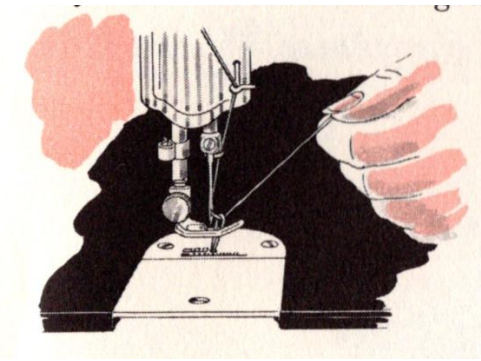
The Sewing Machine Instruction Book outlines specific threading points for threading the bobbin case of each sewing machine.

Threading the Machine

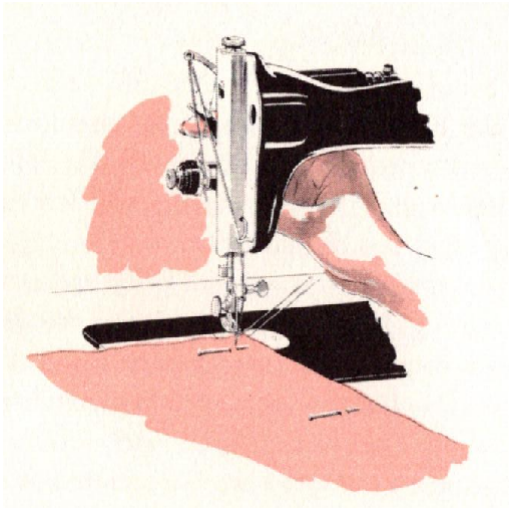


THE UPPER THREADING of the SINGER Sewing Machine is simple and follows a natural sequence. The felt discs on the spool pins (sometimes found in the box of attachments) contribute to the free and even flow of thread from the spool and always should be used under the spool. The threading of the machine is the first point to check, when stitching problems arise. Some threads, especially silk and nylon, in dry weather tend to create static electricity and twist. If a second loop is thrown over a threading point, the usual good performance of the sewing machine is impaired. Careless threading of tensions leads to non-performance.

The final step in threading is to draw the thread from the bobbin case to the surface. Holding the needle thread loosely with the left hand, turn the balance wheel with the right hand drawing up the lower thread with the loop of the needle thread. Lay these threads back diagonally beneath the presser foot and bring the balance wheel forward sufficiently to place the take-up lever at its highest point. This is the correct starting and stopping position in all sewing machine work and should be practiced until it becomes habit.



How to Start and End a Seam

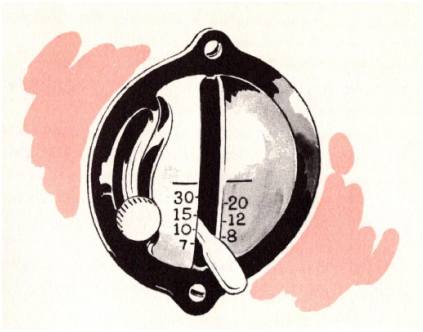


SUCCESSFUL STITCHING is closely related to the simple principals employed when starting and ending a seam. There are seven steps to observe in this sequence:

1.The take-up lever should be at its highest point, the threads brought under the presser foot and and drawn back diagonally.
2.Position the needle into the fabric where the first stitch is to fall.
3.Holding the thread ends, lower pressor foot.
4.Stitch, controlling the speed to a slow *rhythmic tempo.*
5.When the end of the seam is reached, bring the take-up lever to its highest point by turning the balance wheel forward.
6. Raise the presser foot and withdraw the fabric to the back and left.
7. Sever the threads by drawing them across the thread cutter.

This procedure should become so "automatic" that it is done without a thought. Although the establishment of such good practice requires deliberate attention in the beginning, it results in a more evenly controlled acceleration of the machine and in a perfectly formed and positioned first stitch. The evidence of such good handling of the sewing machine is revealed in the more exact assembling of seams, collars, facings, pockets and all intricate details of sewing.

Regulating the Length of Stitch



THIS SEWING MACHINE in the home is called upon to stitch innumerable weights and textures of fabrics and a SINGER is designed and constructed to accommodate this variety through a few simple, understandable adaptations, one of which is stitch length.

Delicate fabrics require a short, fine stitch. Heavy coarse fabrics require a long, heavy stitch to blend with the character of the fabric. Outside stitching is shorter than inside stitching. A short stitch is a mark of quality and beauty. Comparison of economy clothing with high quality clothing reveals that quality garments are stitched with shorter stitches and appropriate weights and types of thread, while economy clothing is often stitched with long stitches and less durable thread. In sewing at home, the greatest saving is experienced when the standards set by the high quality manufacturers, or custom-made establishments, are employed. The Fabric, Thread and Needle Chart tabulates the

recommended length of stitch for each weight and texture of fabric for both inside seams and top stitching.

The length of stitch is changed to accomplish many sewing constructions. Basting, stitching curved seams, stitching scallops, stitching to control ease, stitching to produce gathering and shirring, and stitching bound buttonholes and pockets are only a few of the steps in dress construction where the stitch length must be changed from that suitable for straight stitching.

Basting with the sewing machine requires a long stitch. The stitch regulator is set at No. 6 or No. 8, depending on the weight of the fabric. Heavier fabrics tolerate longer stitches.

Curved seams require a stitch shorter than used for straight stitching. Where a No. 12 stitch is used for straight stitching, a No. 15 stitch is suitable for curves to produce greater elasticity and strength over the bias or semi-bias cut areas that must be more elastic than seams following the lengthwise or crosswise threads of the fabric.

Scallops require an even shorter stitch than curves in order to maintain a smooth, rounded contour and to permit close blending of the seams. A No. 20 stitch is usually used for this stitching.

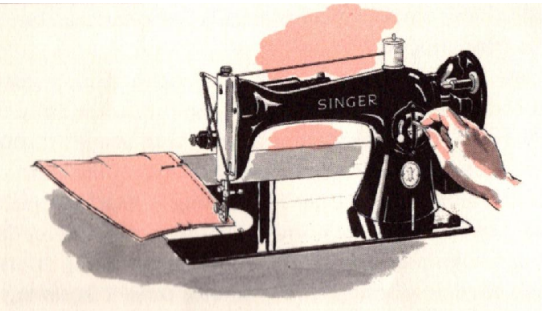
Stitching to control ease, as around a patch pocket or a curved lapped seam, at the sleeve cap, at the elbow of a long sleeve, at the top of a hem, or wherever one seam edge is eased to another, requires a longer stitch then required for straight stitching. For example, No. 8, No. 10 or No. 12 length stitch might be used, as required by the fabric.

Stitching to produce gathering requires a longer than average stitch, the length of which varies with the texture of the fabric.

Bound buttonholes and pockets are made with a shorter stitch, to increase strength and durability of construction. A No. 20 length stitch is frequently used on medium light-weight fabrics for stitching buttonholes and pockets.

A stitch regulator that is easy to set, and one that is positively marked, is convenient and contributes to better sewing, as well as to the pleasure and ease with which sewing is accomplished. The Instruction Book that accompanies each sewing machine illustrates clearly the simple procedures for setting the stitch-length Control.

Staying a Seam at Beginning and End

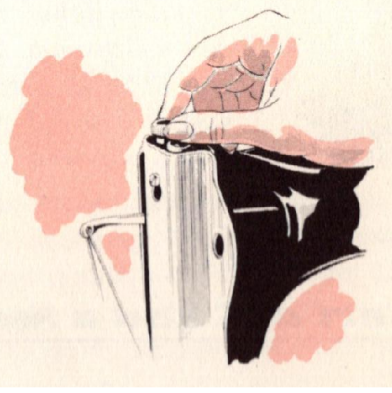


THE DIRECTION in which the fabric moves under the presser foot can be reversed by raising the stitch regulator lever to its highest point. While some SINGER Sewing Machines provide only for back-tacking, others provide for a reverse stitch of the same length as the forward stitch. Several of the economy models have no facilities for reverse stitching. The greatest convenience lies with the machine having the controlled reverse stitch, since almost every seam is finished at both ends by reverse stitching, to produce added strength and non-ravelling qualities so helpful while assembling the garment.

The staying of a seam occurs within the 5/8" seam allowance on both the beginning and end. The procedure is to drop the needle into the fabric about 1/2" from the edge and so that the full 5/8" seam allowance falls to the operator's right of the needle. Lift the stitch regulator lever to its highest point and make four or five stitches in reverse and without necessarily stopping the machine, press the lever down to produce forward stitching to the end of the seam, where again the stitch regulator lever is raised to its highest Point to produce four or five stitches in reverse.

In addition to staying the ends of seams, reverse stitching is used to make bar reinforcements, for darning and mending, and in many delicate steps of assembling garment sections where one seam stitching must end at a given point so that it might join smoothly and securely to another. The joining of the tailored notched collar with the lapel is a typical example. Corded buttonholes and pockets require back stitching at several steps of their construction, as do many other steps in assembling a well-made garment.

Pressure Changes to Accommodate Fabrics of Varying Weights



Pressure is the force the presser foot exerts on the fabric when it is being stitched. It is regulated by the thumb screw at the top of the Presser Bar. Turning the thumb screw to the right, increases the pressure. Turning it to the left, decreases the pressure. Reference to the Sewing Machine Instruction Book is helpful in locating this thumb screw.

The fabric determines the amount of pressure needed for smooth, even feeding of the several thicknesses that form a seam. Heavy materials require a heavy pressure and light materials a light pressure. Medium weights of fabric require a pressure midway between the light and heavy extremes. Smooth, even handling results when the pressure is regulated to the correct degree. Too heavy pressure

causes the machine to run “heavy” and seam edges to be joined unevenly in soft spongy fabrics, or, the mark of the feed to appear on smooth-surfaced fabrics. Too light pressure results in an irregular stitch and irregular joining of seam edges.

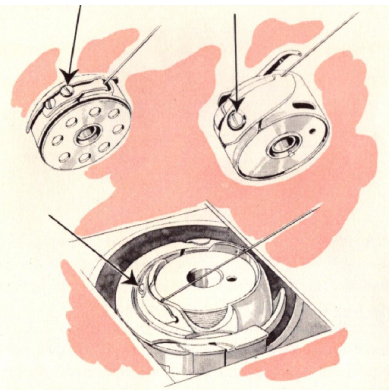
It is advisable to test for pressure adjustment on a lengthwise scrap of fabric by stitching without thread. When all seam edges are handled evenly the correct pressure adjustment has been reached.

Pile fabrics, such as velvet, velveteen and corduroy, require a pressure adjustment somewhat lighter than for a flat woven fabric of the same thickness. The rule for stitching pile fabrics is to use a light pressure and stitch in the direction of the pile. A garment is usually cut with the pile standing up, resulting in seams being stitched from the lower edge upward.

Pressure is often regulated heavier when stitching seams that cross, since they create greater thickness. When SINGER* Fashion Aids and Attachments are used, the regulation a pressure is an important factor in producing good results.

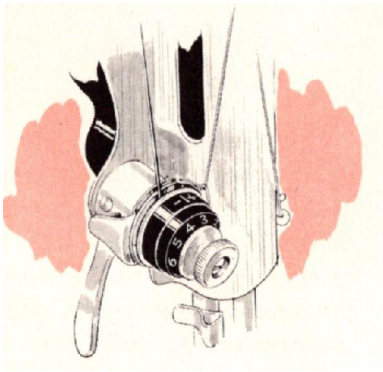
A clear understanding of pressure and its application to weights and textures of fabrics makes it easier to produce smoothly constructed garments from the many fabrics available to people sewing at home.

The Function and Adjustment of Tension

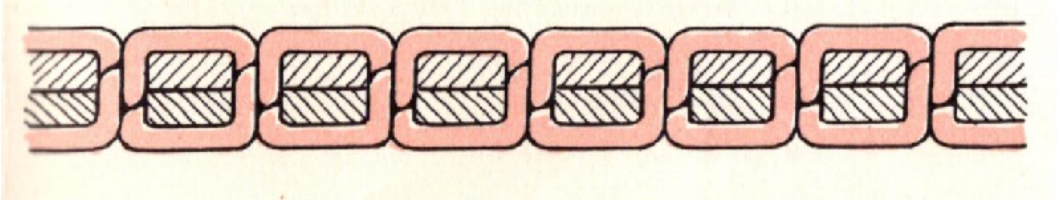


TENSIONS control the threads that interlock to form the sewing machine stitch. The lower thread tension is found on the bobbin case where control is exerted by the spring under which the thread passes. The point of adjustment for this tension spring is the small screw nearest the center of the tension spring. By turning the screw right the tension is increased, and by turning it left the tension is decreased. A one-eighth or one-quarter turn of this tension screw changes the weight of the tension adjustment considerably. Therefore this adjustment is always made discreetly.

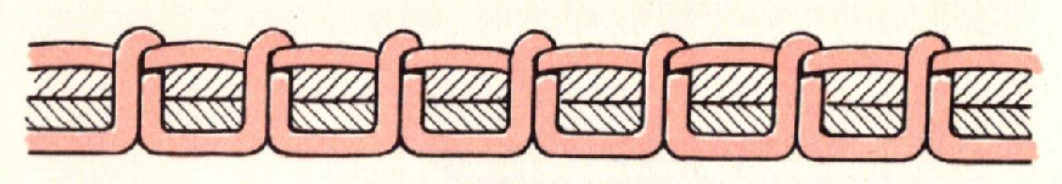
The upper thread tension is familiar to everyone and can be located by referring to the Instruction Book for the machine. Tension is exerted by the closely fitted discs between which the upper thread passes. The point of adjustment for this tension is the thumb screw on the extreme end of this tension unit. A graduated dial further simplifies the upper control of the tension. Turning the thumb nut right dials a higher number and increases the tension. Turning the thumb nut left dials a lower number, decreasing the tension.



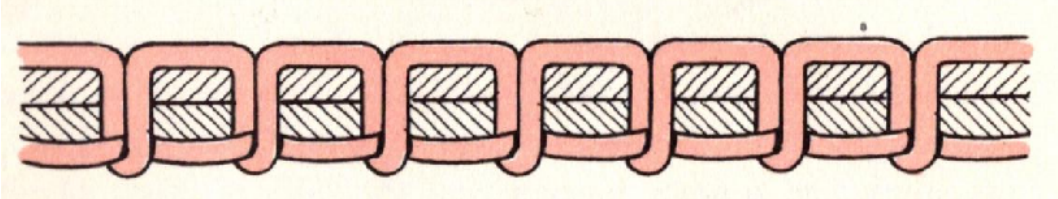
A perfectly locked stitch results when the relationship between the upper and lower tension is such that the threads are drawn into fabric equally, as illustrated below.



When the upper tension is heavier than the lower tension the needle thread will lie straight along the upper surface of the material, as illustrated below.



When the upper tension is lighter than the lower tension the bobbin thread will lie straight along the underside of the material, as illustrated below.



The perfectly locked stitch is used for all construction seams in garments and fabric furnishings. Unbalanced tensions, used only for decorative effects and SINGER* Fashion Stitches, are presented as a separate subject. The durability of a garment or a slipcover is closely related to the strength of its seams.

A seam stitched with a perfectly locked stitch is doubly strong in comparison with a line of stitching made with an unbalanced stitch. This point is easy to verify by stitching diagonally across a square of material. Holding the stitching tightly at each end between the thumb and finger, pull with an even and gradual force until the thread breaks. The broken thread is always the one with the heavier tension which under strain must carry the whole weight. Where a line of stitching is made with a perfectly locked stitch both threads break together and require more force to break indicating strength of a balanced stitch.

Inspection of the line of stitching is the only proof of correct tension adjustment. Tensions must be set at a point where the thread is handled lightly enough that the stitching does not draw the fabric, yet heavily enough that the stitch is drawn into the fabric and is regular and constant.

The flexibility of the sewing machine is materially broadened when a practical understanding of tension regulation has been acquired.

It must be remembered that some of the factors that influence this stitch, actually stands alone. All work together to produce an appropriate line of stitching. Based on the fabric, the kind and size of thread is chosen, then the needle size, stitch length, pressure adjustment, and finally the stitch is inspected for its appearance and accuracy of tension.

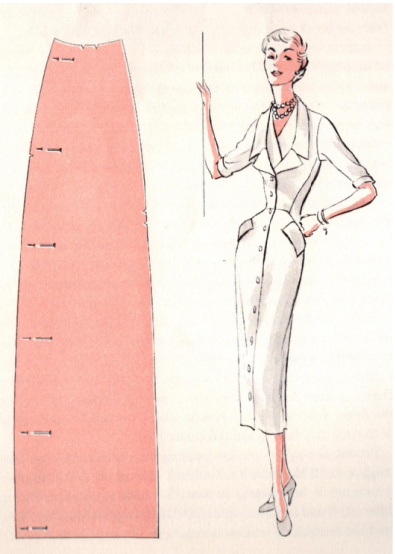
It is a good practice to test the stitch on a scrap of the fabric to be used, and with the needle and thread which which the garment is to be made.

It is seldom necessary to change the bobbin tension when changing from one kind or size of thread to another. By varying the upper tension slightly a wide variety of weights and types of threads and fabrics are accommodated.

Record the upper tension reading that produces a perfect stitch with 50 mercerized thread and then return to this number if a change in bobbin tension has been made to accommodate a different thread or fabric, or for SINGER Fashion Stitches. Then readjust the bobbin tension to regain the same perfect stitch.

STITCHING FOR LINE

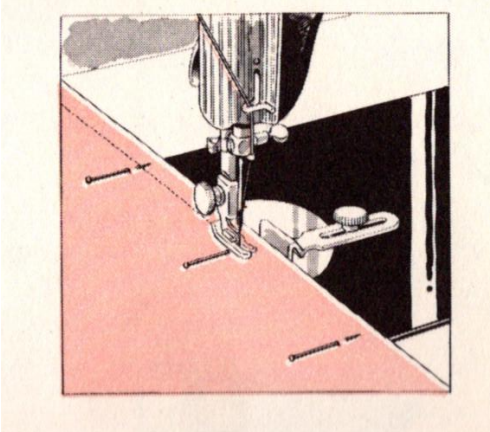
The Straight Seam



LINE IN DRESS CONSTRUCTION is expressed through seams, some of which must be emphasized by special treatment, while others are meant to be almost invisible.

The established steps for forming seams are to **first** pin seam edges at each end, at notches and at center, finally working toward the edges. The **second** step is to hand baste, the **third**, to stitch, the **fourth**, to pink and the **fifth** to press. Hand basting is often eliminated on easy-to-handle fabrics and when sufficient skill in stitching has been developed. This Seam Guide aids in guiding the seam stitching straight and parallel to the edge. The Hinged Presser Foot rides freely over the pin points. Pins are placed with the points toward you seam edge and nip into the fabric at the stitching line.

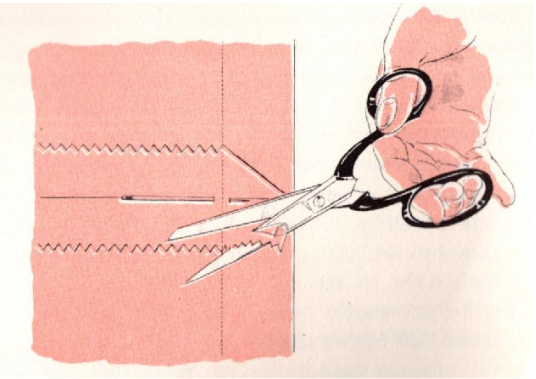
Many cottons, woolens, and spun rayons lend themselves to this handling. However, smooth textured fabrics, pile fabrics, delicate fabrics and fabrics with a surface finish like satin require more careful handling and do not lend themselves to pinning and stitching without hand basting. Neither should they be machine-basted.



The Seam Guide is attached to this sewing machine with the thumb screw in either of the two threaded holes provided and is adjustable for spacing at any distance between an approximate 1/8" and 1 3/8" from the edge.

In addition to its use in guiding the stitching of seams, the Seam Guide is used when stitching the edges of facings, lapels and the like with either single or multiple rows, placing stay stitching where edges might stretch, and in many other stitching steps where exactness is required.

Seams that Cross

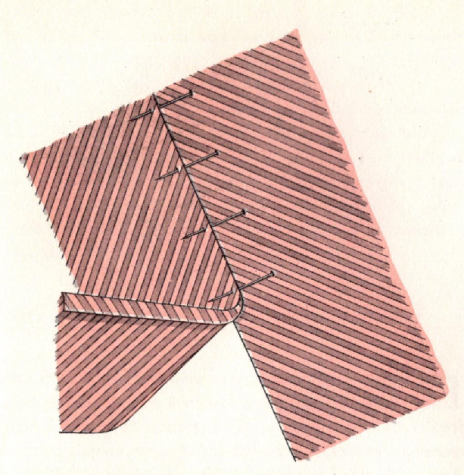


A FINE HAND SEWING NEEDLE placed at the junction of crossing seams ensures accurately crossed seams, that are so indicative of well-made clothing. Perhaps seams that cross are most noticed when they occur on the shoulder line – as in the princess line jacket or dress. When these four seams form a perfect cross, the effect is pleasing; otherwise, the poor workmanship destroys the beauty of the garment.

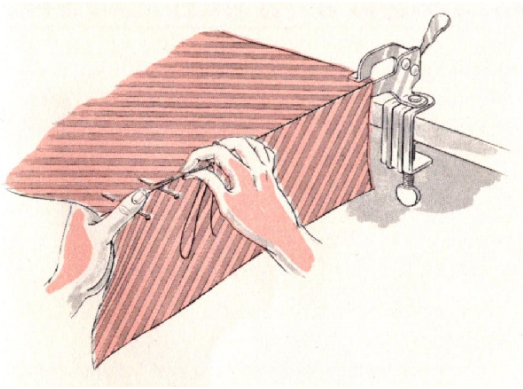
A fine needle is used exactly at the junction of this seams and only its point nips into the fabric at the stitching line. The fine needle does not mar the most delicate fabric and prevents one seam from slipping beyond the other while holding this seam lines exactly as pinned. Where the fabric is heavy, the pressure is increased for stitching over the area where this seams cross.

Further smoothness of fit is accomplished by blending away the excess seam allowance at the point where the seams cross.

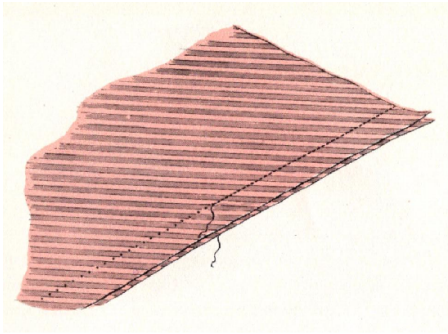
Slip-Basting for Stripes, Plaids, Prints



PERFECTLY MATCHED SEAMS for stripes, plaids or prints are simple to achieve if the seam is slip-basted before being stitched. The procedure is to fold under one seam allowance exactly on the seam line. Working from the right side of the fabric, overlap the seam edges, pin, then slip-baste. This method permits careful matching of the details of the fabric and it is a mark of expensive clothing. Perfectly matched plaids and stripes are not found among the economy garments since they require individual cutting and assembling, which are costly manufacturing processes.

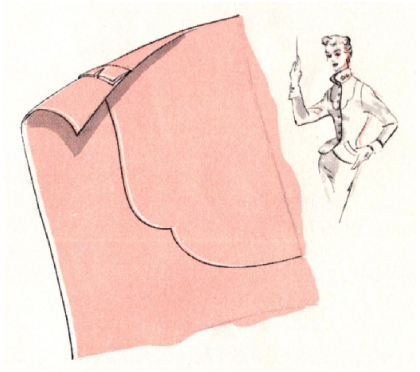


The formation of the stitch in slip-basting is simple and rapid. Using a "Straw" needle, bring the point up through the fold of the seam. The stitch begins from this position. Direct the needle down through the single thickness at the side of the point where the thread now emerges and carry it up through the fold of the seam some distance away to complete the stitch with a single stroke. The length of the stitch may vary with the shape of the seam and texture of the fabric, but is usually 1/4" to 1/2" in length. The Material Gripper serves as a third hand in holding that seam firmly while basting.



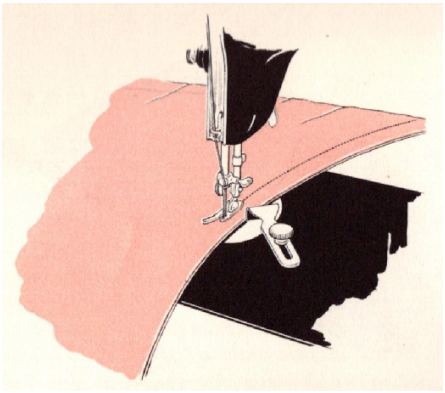
The sewing machine stitching is placed from the inside of the garment just as is done for a plain seam. Slip-basting is especially easy to follow since the exact stitching line is established by the small crosswise stitches that result from basting through the folded seam edge.

Slip-Basting for Decorative Seams



DECORATIVE CURVED SEAMS that carry no top stitching and that are so often found on custom-made dresses and suits are formed in much the same way. The seam allowance is controlled by a line of stitching placed just outside the stitching line and is then folded under and pressed. This section is slip-basted in place to hold the shaping of the seam while it is being stitched on the inside.

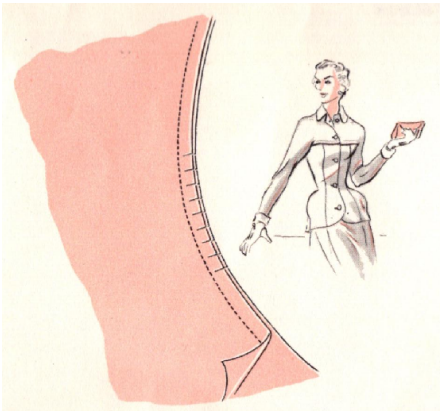
Plain Seams with Inside Curve



EVERY GARMENT has curved seams as well as straight seams and these require additional treatment in handling and shaping. The stitch is shortened when stitching curves. A fabric where a No. 12 stitch is used for straight seams requires a No. 15 stitch length for curved seams to provide the added elasticity and strength needed. The Seam Guide is positioned advantageously at an angle for guiding a uniform seam allowance.

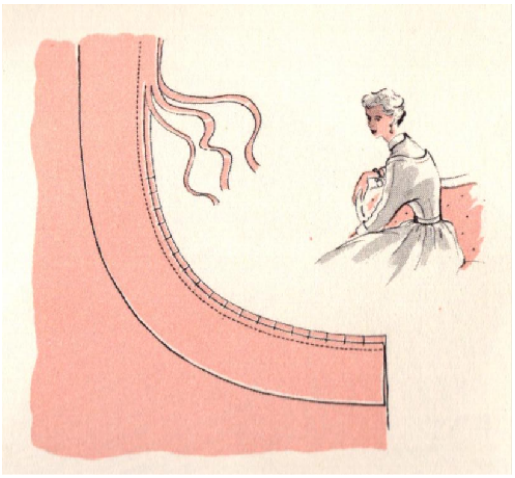
Seam edges support the seam line but must not restrict or restrain its shaping. Seams that curve inwardly have a tendency to draw if the edges are not released by blending.

BLENDING THE INSIDE CURVE on a fitting seam requires slashing into the seam allowance far enough to release the strain imposed by the edges, but never within less than 1/4" of the stitching. If the fabric tends to fray these slashes are reinforced by stitching or overcasting. Such seams are usually pressed open, edges are usually pinked or finished as required by the fabric.



The inside curve is found as a fitting seam at the shoulder line where the neckline is built up, at the waistline side seams and at styling seams in overblouses, suit jackets, and princess line bodices as well as in creating all concave effects.

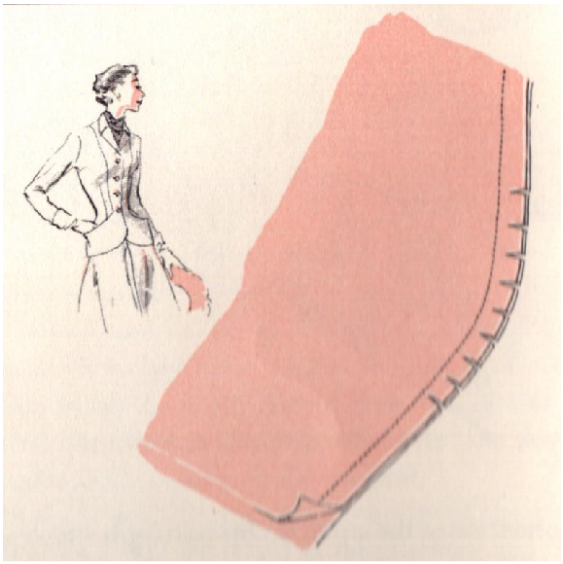
Facing Seams – Inside Curves



THE INSIDE CURVE occurs when applying facings at the neckline, collars, shaped yolks and pockets, and often in decorative details so important in smart clothes. This curve is treated somewhat differently then the fitted curve in that both seam edges are blended to uneven widths, the facing two 1/8" and the garment to 1/4" so that when they are folded to their inside position the edges are almost indiscernible.

These blended seams are slashed at evenly spaced intervals to within 1/8" of the stitching to release the edges and prevent pulling. The seam edges of a heavy fabric or one that frays might be blended to 1/4" and 3/8" instead of 1/8" and 1/4".

Plain Seam with Outside Corner curve

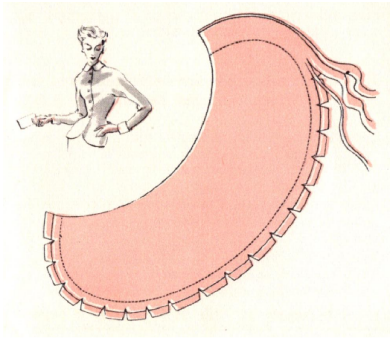


THE OUTSIDE CURVE that occurs in fitting seams cover the bustline, hipline and in yoke seams, requires the same shorter stitch length as the inside curve and the same handling of the Seam Guide, but the blending of the edges is different. This seam edges of the outside curve are in excess and unless cut away, the bulk forms folds that press through, marking the outside of the seam area.

The degree to which an outside curved seam requires blending depends upon the amount of curve and the firmness of the fabric. Where the curve is slight and the fabric flexible, quite often blending is unnecessary. However, on firmly woven fabrics, or where the curve is pronounced, blending is essential.

Blending the outside curve requires cutting narrow wedges from be seam allowance at evenly spaced intervals sufficient only to remove the portion that might overlap when the seam presses open. Avoid cutting out large wedges that might produce a saw-tooth effect since these irregular edges press through to the right side in an unsightly way. The aim is to provide a smooth and even seam edge.

Facing Seams - Outside Curve

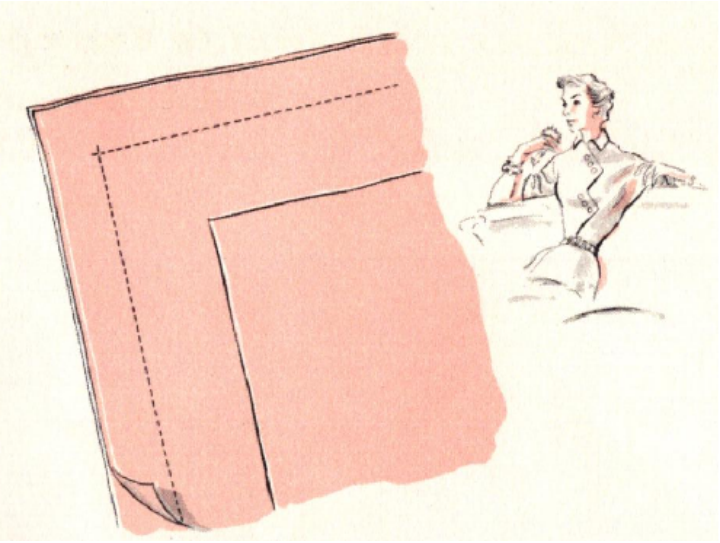


THE OUTSIDE CURVE occurs often on collars, lapels, pockets and decorative seams. The stitching of the seam and blending of the seam edges are the same for the outside curve as for the inside curve, except instead of slashing, wedges are cut at even intervals to remove the bulk that would otherwise fall on the inside when the facing is turned. It is important that only enough is cut away to permit the seam edges to lie evenly and smoothly and that a saw-tooth effect is avoided in the seam edge.

Stitching Square Corners

SQUARE CORNERS occur often in the facing of a neckline, collar, lapel, or pocket and are effectively accomplished in the following way, yet eliminates unattractive bulk at the corner.

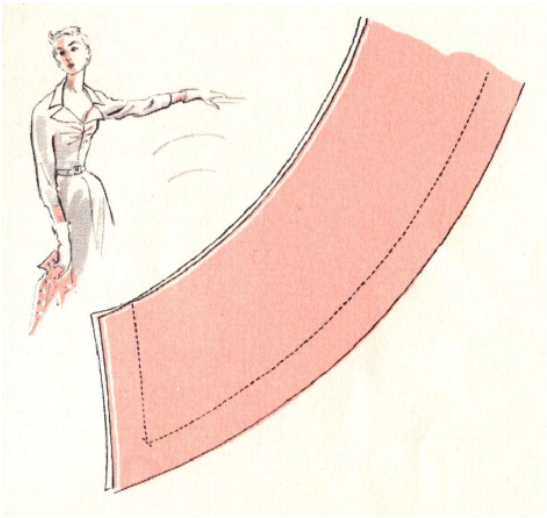
Stitch along this seam line to a point one stitch beyond the intersecting seam line at the corner. Then reverse the direction of the stitch and make one stitch backward. Lift the presser foot after the needle has been brought to its upward stroke and just before the needle point leaves the fabric.



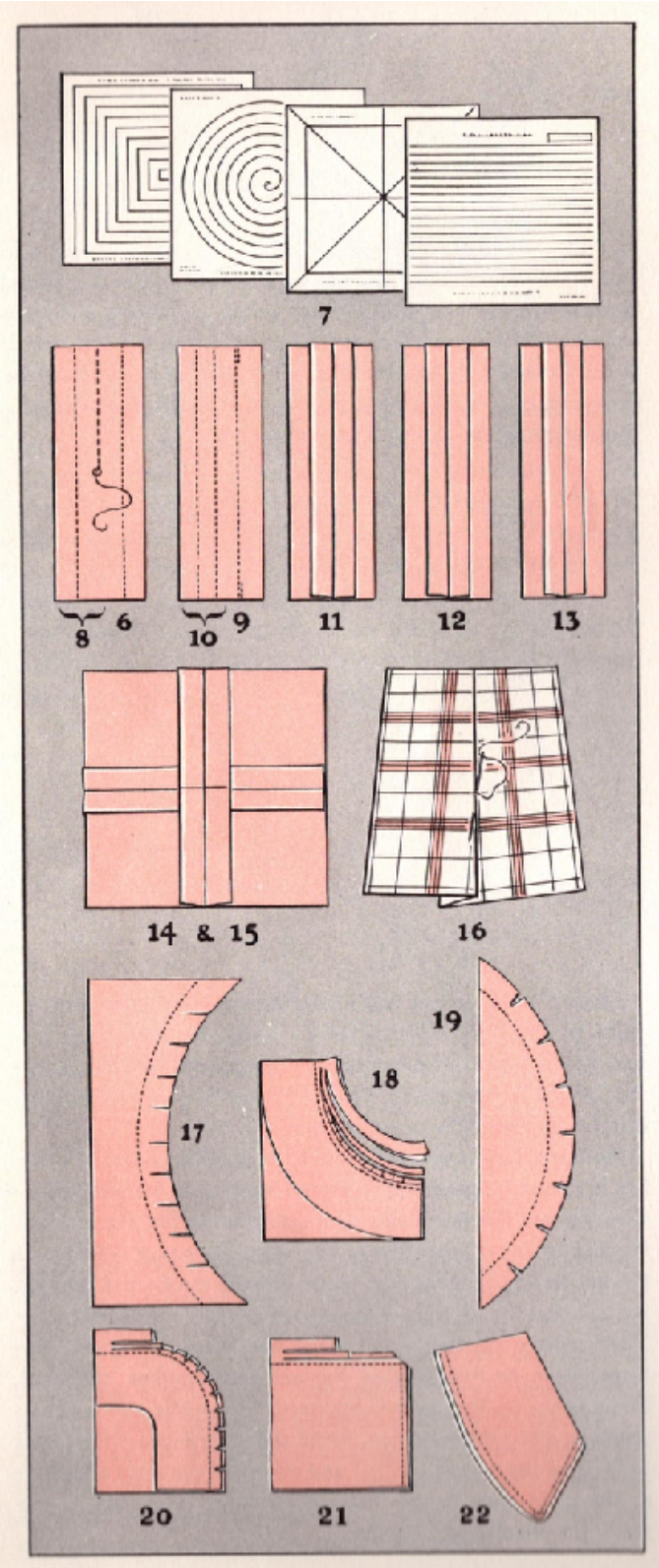
Turn of the fabric, pivoting on the needle. Take one stitch in reverse and then continue stitching in a forward direction. Blend the seam edges of the facing to 1/8" and the garment section to 1/4" and cut the corner diagonally very close to the cross stitch at the corner. The square is now ready to press and turn.

Narrow collar points require a diagonal stitching across the point to allow space to smoothly enclose the seam edges that turn to the inside. The number of diagonal stitches varies with the weight of the fabric. Heavy fabrics require more stitches diagonally than light-weight fabrics.

Back stitching is also used at both ends of the diagonal stitching for reinforcement and to permit very close blending of the seam edges. The procedure is to stitch to within about 2 or 3 stitches of the intersection of the seam allowance. Pivot with the needle in the fabric but on its upward stroke and turn the work so that the stitching is directed diagonally across the corner. Then reverse the stitch and make one stitch backward, then three, four, or five stitches forward and another backward. Pivot again on the upward stroke of the needle and continue stitching along the seam line. Blend the seam edges of the facing to 1/8"and the garment to 1/4" and cut away the seam allowance at the point close to the diagonal stitching. The work is now ready for pressing and turning.



Lesson 1 - Sewing Machine Principles



First Practice session–Sewing Machine Facts

1.Review oiling points–
Refer to the sewing machine instruction book, then locate these oiling points on the sewing machine.
2.Remove and replace face plate and throat plate.
3.Remove and reset needle.

Second Practice Session–preparation for stitching

4.Wind bobbin.
5.Thread machine.
6.Stitch a plain seam and practice these steps–(a) take-up lever at its highest point, (b) position needle, (c) lower presser foot, (d) stitch slowly, (e) stop machine and bring take-up lever to its highest point, (f) raise presser foot and remove work, (g) server threads on the thread cutter.

Third Practice Session–Stitch Length, Pressure and Tension

7.Learn to recognize stitch lengths with machine unthreaded and using Stitching Charts, stitch with No. 10, No. 12 and No. 20 length. Complete charts on your sewing machine.
8.Sewing Machine Basting–
Using the same piece of fabric as in Step 6, stitch one row of each No. 6 and No. 8 basting. Then practice removing basting.
9.Stay seams at each end.
10.Study the effect of tension by stitching one row with a heavy upper tension and one with a light

upper tension.

11. Stitch a seam on corduroy, using mercerized thread, size 14 needle, No. 12 length stitch, light pressure and stitch in direction with the nap.
12. Stitch a seam on wool fabric using silk thread, size 14 needle and No. 12 length stitch. Pressure is slightly heavier than for average stitching.
13. Stitch a seam on fine cotton using size 90 to 120 six cord cotton thread, a size 9 needle, a No. 20 length stitch and light pressure.

Fourth Practice Session–Stitching for Line

14. Plain seam–Learn to pin and guide stitching with Cloth Guide. Use two pieces of fabric 8"x 4".
15. Crossed seam–Learn to press seams open in preparation for crossing seams. Pin to hold position at junction of seams. Blend seams at crossing. Use plain seam from step 14, cut cross-wise, then join to form crossed seam.
16. Slip-based–Learn to slip-baste seams for matching plaids. Use Straw needle, size 8, for basting.

17 and 18. Inside curves–No. 15 stitch length for stitching. Blend according to usage as facing and as a fitted seam. Two projects.

19 and 20. Outside Curves–No. 15 stitch length. Blend according to usage as facing and as fitted seam. Two projects.

21 and 22. Corners–pivoting and back-stitching. Two projects.