

DOCUMENT RESUME

ED 123 486

CE 007 322

AUTHOR Peacock, Marion E.
TITLE Your Sewing Machine.
INSTITUTION Rutgers, The State Univ., New Brunswick, N.J.
Curriculum Lab.
SPONS AGENCY New Jersey State Dept. of Education, Trenton. Div. of
Vocational Education.
REPORT NO VT-102-814
PUB DATE Apr 76
NOTE 122p.-
AVAILABLE FROM Vocational-Technical Curriculum Laboratory,
Rutgers--The State University, Building 4103--Kilmer
Campus, New Brunswick, New Jersey 08903 (Catalog
Number NT-194, \$2.00)

EDRS PRICE MF-\$0.83 HC-\$6.01 Plus Postage.
DESCRIPTORS Instructional Materials; *Manuals; *Programed Texts;
Secondary Education; Study Guides
IDENTIFIERS *Sewing Machines

ABSTRACT

The programed instruction manual is designed to aid the student in learning the parts, uses, and operation of the sewing machine. Drawings of sewing machine parts are presented, and space is provided for the student's written responses. Following an introductory section identifying sewing machine parts, the manual deals with each part and its functions in detail: handwheel, thread holder or spool pin, thread guides, tension, thread take-up, lever, needle bar and needle clamp, needles, presser foot, face plates and feed dogs, base, bobbin, and sewing. (NJ)

* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered, and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *

Jersey
of Education
Vocational Education

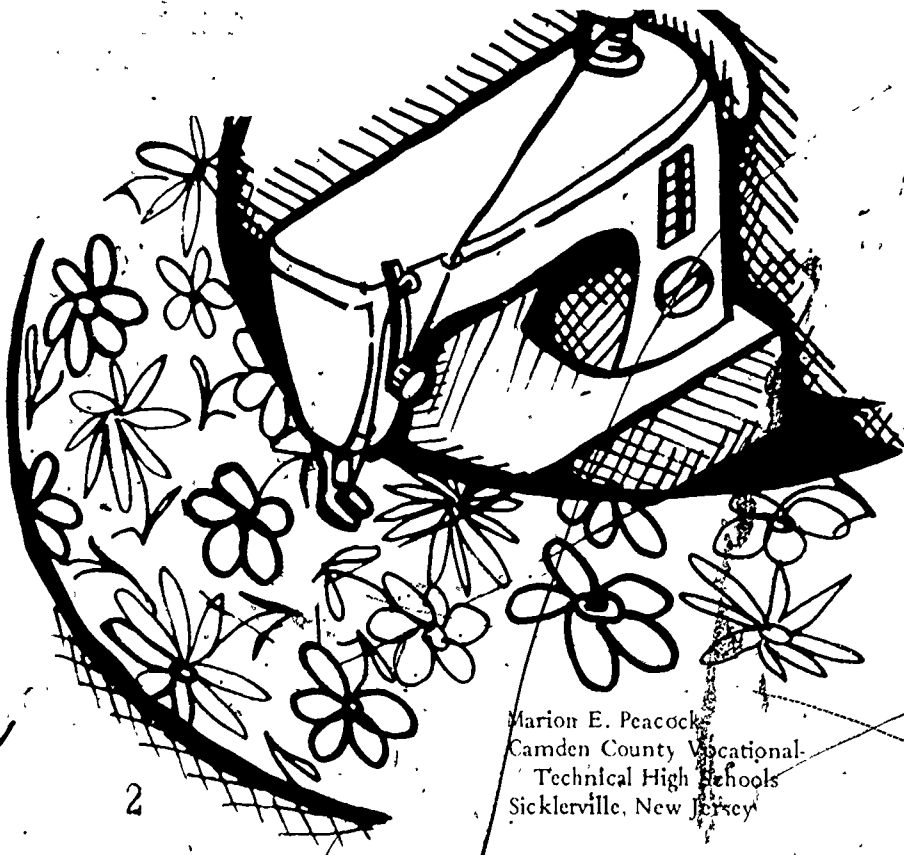
ED 123436

Your Sewing Machine

Know What--

Know Why--

Know How!



Marion E. Peacock
Camden County Vocational-
Technical High Schools
Sicklerville, New Jersey

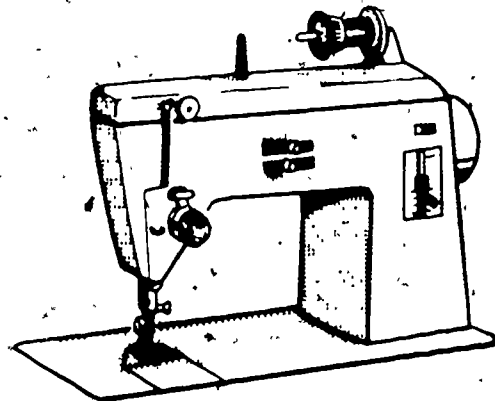
State of New Jersey
Department of Education
Division of Vocational Education

YOUR SEWING MACHINE

Marion E. Peacock

Donald C. Springle, Superintendent
Camden County Vocational-Technical High Schools
Sicklerville, New Jersey

Vocational-Technical
Curriculum Laboratory
Rutgers - The State University
Building 4103 - Kilmer Campus
New Brunswick, New Jersey



April, 1976

NEW JERSEY DEPARTMENT OF EDUCATION

FRED G. BURKE COMMISSIONER

RALPH H. LATAILLE, DEPUTY COMMISSIONER

DIVISION OF VOCATIONAL EDUCATION

STEPHEN POLIACK, ASSISTANT COMMISSIONER

BENJAMIN SHAPIRO, PROJECT DIRECTOR

CURRICULUM LABORATORY

RUTGERS - THE STATE UNIVERSITY

BUILDING 4103 KILMER CAMPUS

NEW BRUNSWICK, NEW JERSEY

TABLE OF CONTENTS

	Page
Purpose of This Book	1
A Safety Rule	4
Parts of the Sewing Machine	6
Handwheel	10
Thread Holder or Spool Pin	13
Thread Guides	17
Tension	26
Thread Take-up Lever	37
Needle Bar and Needle Clamp	40
Needles	43
Presser Foot	54
Face Plates and Feed Dogs	61
Base	66
Bobbin	67
Sewing	94

The purpose of this book is to help you know *what* the parts of a sewing machine are, *why* they are needed, and *how* to use them to get the best results


Read and study each page. Every page has something you will need to know – so do not skip around.

Print or write your answers. Look on the page following the question to check your answers.

If your answers are right, go to the next page

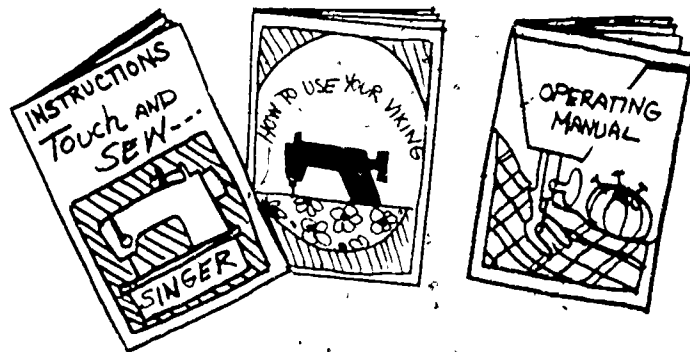
If your answers are wrong, find out why. Did you understand the question? Ask your teacher if your answer may be right, even though different from the answer as given in this book. This sometimes happens.

When you sit down to sew, you should have two things with you

 These are sharp scissors and the instruction book for your machine

When you sit down with this book to learn about your sewing machine, you will also need a pencil and some paper, in addition to your scissors and the instruction book for your sewing machine.

This book will not take the place of the instruction book for your sewing machine. It was not meant to.



You will be able to follow the directions better and be a good sewing machine operator sooner, if you make a real effort to understand *what* you must do, *why* you must do it, and *how* to do it more easily.

This is why you should know the names of parts of your sewing machine and their uses *before* you begin to sew

It is possible to use a sewing machine knowing very little about it.

It is not likely you will get the best possible results from a sewing machine unless you do know many things about it.

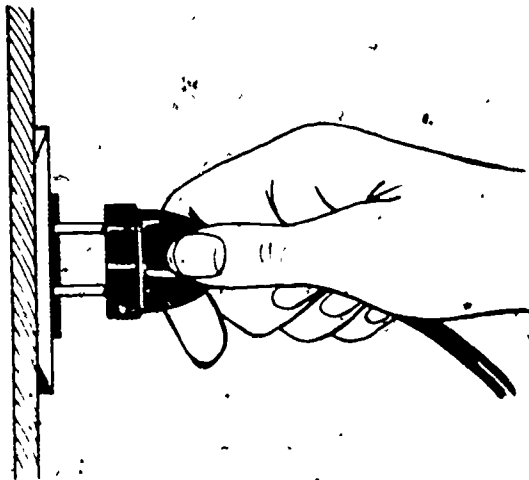
Sit at your machine to use this book. Remove the plug from the outlet until you are told to "plug-in".

8

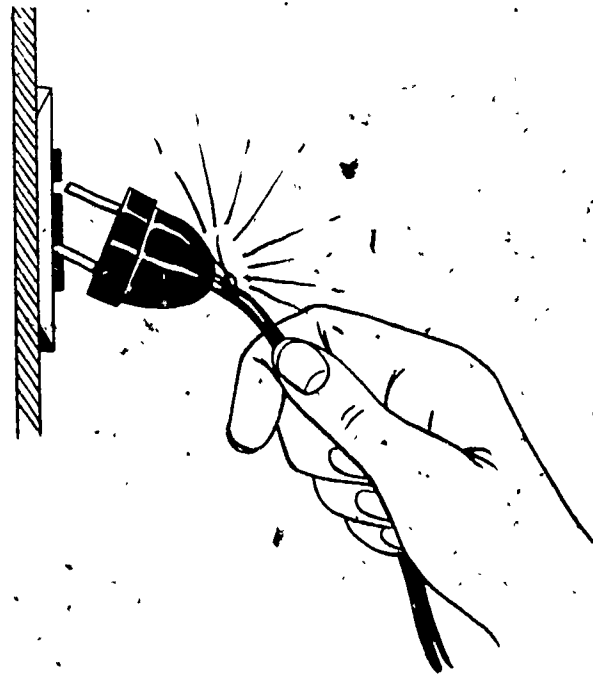
3

A GOOD SAFETY RULE

Always use the plug to pull out
(disconnect) the cord.



If you pull on the cord you may cause a
"short", which could hurt you.



Examine your cord and plug. Are the plug, prongs, and cord all in good condition? If not, tell your teacher so it can be repaired before it is used.

Remember: a good operator is a safe operator.

Does the plug look like this?



or this?



or this?



Shapes of plugs are not always alike.

Can you see how these plugs are alike?

Write or print your answers.

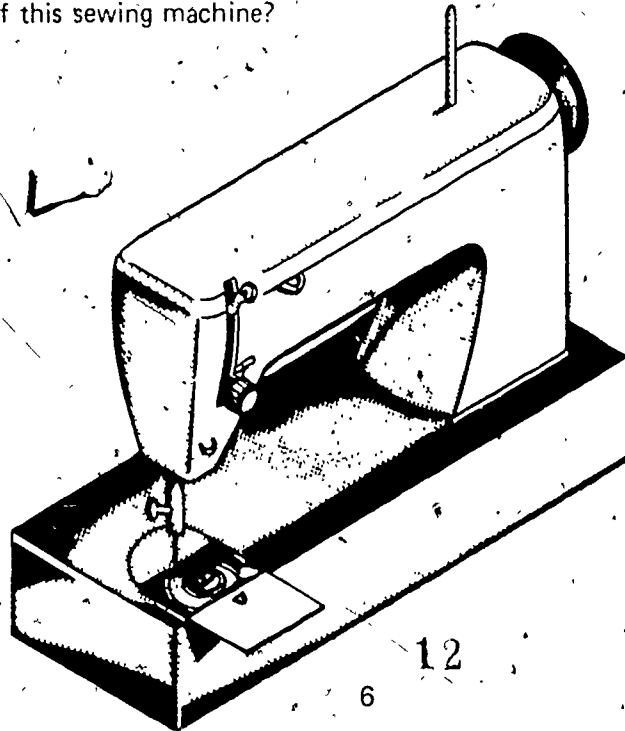
All plugs are on the ends of the cords.

All plugs have metal prongs to be pushed into an outlet.

PARTS OF THE SEWING MACHINE

You may know names for sewing machine parts now.

Can you name any parts of this sewing machine?



needle

needle bar

hand wheel

spool pin or thread holder

take-up

tension

thread guide

head

base

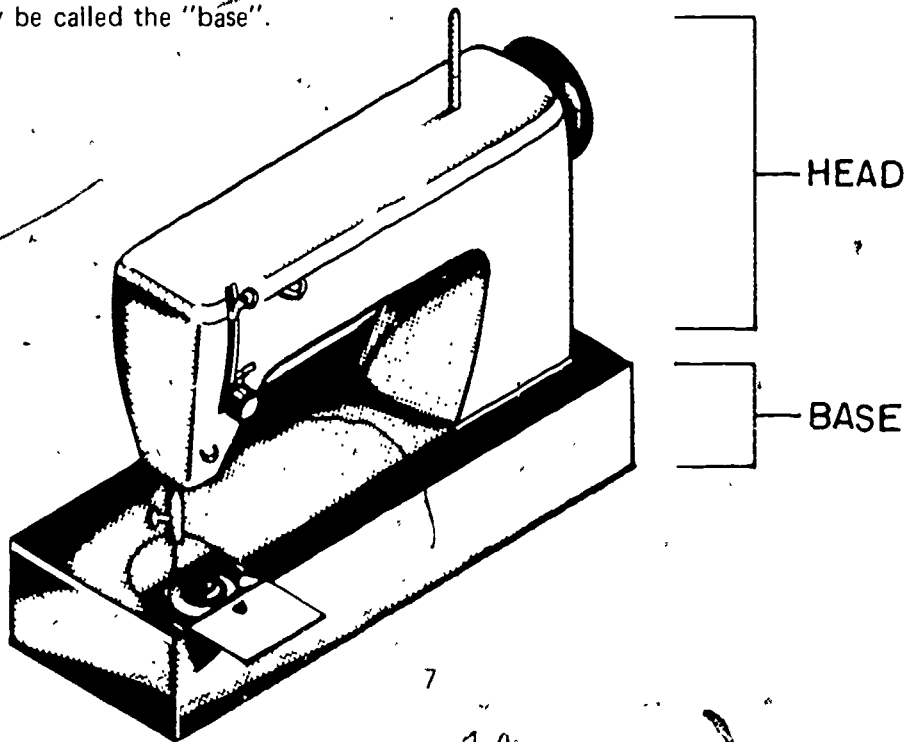
bobbin

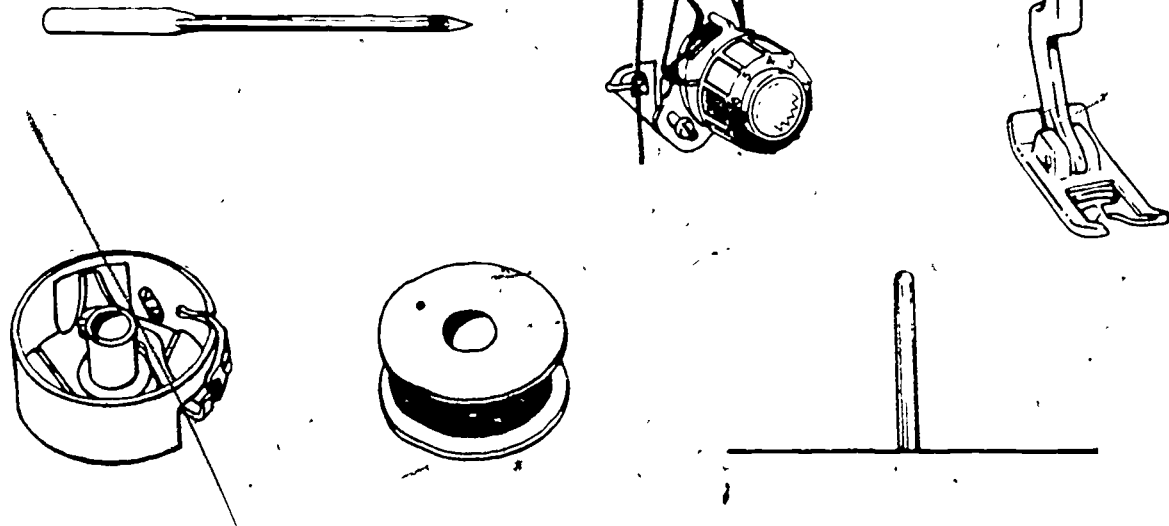
bobbin case

6a

The upper part of a sewing machine is sometimes called a "head".

The lower part may be called the "base".

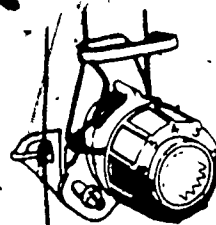




Do you know the names of any of these sewing machine parts?



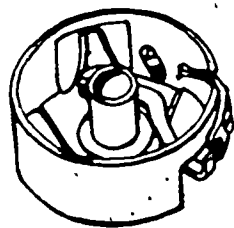
Needle



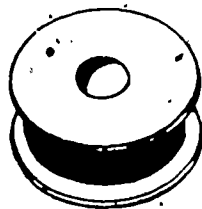
Tension Regulator



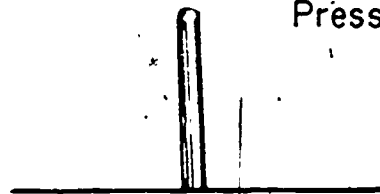
Presser Foot



Bobbin Case



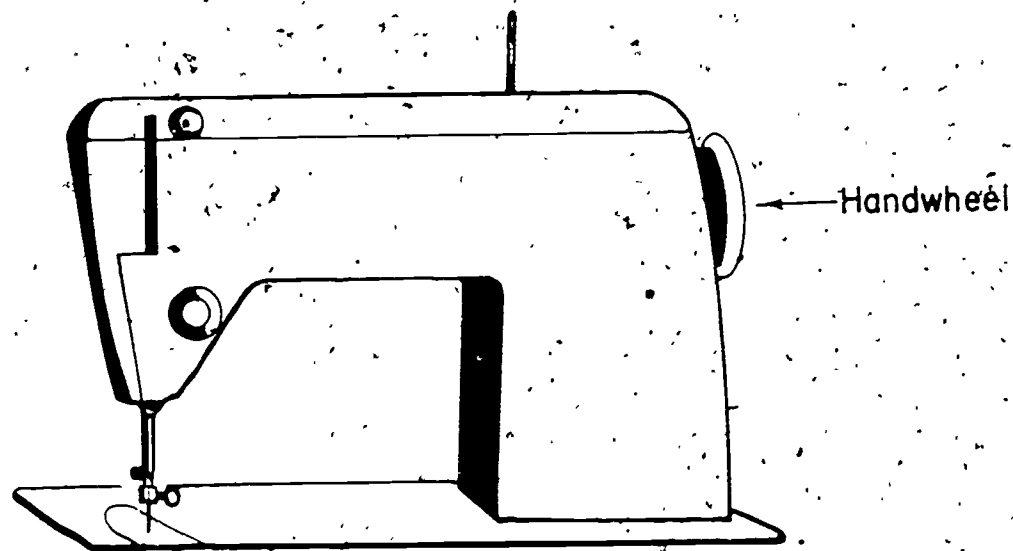
Bobbin

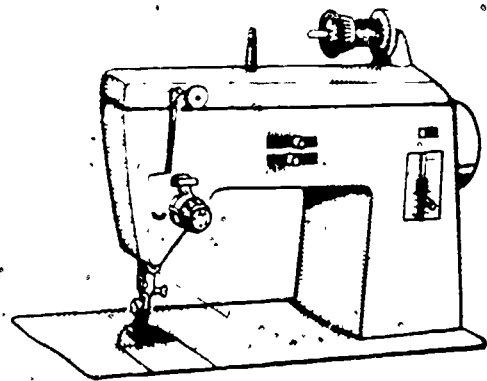
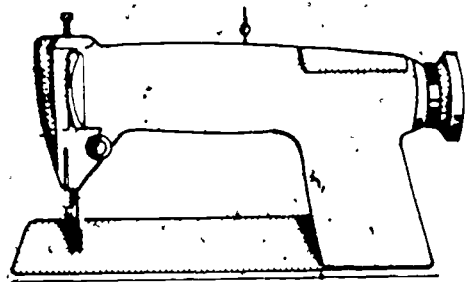


Spool Pin or Thread Holder

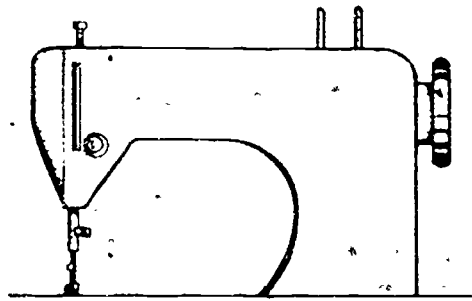
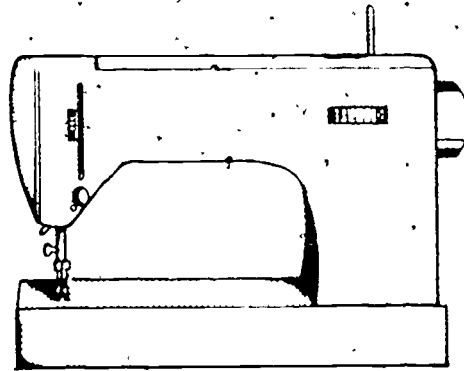
HANDWHEEL

The hand wheel on the right side of the machine can be used to raise or lower the needle.





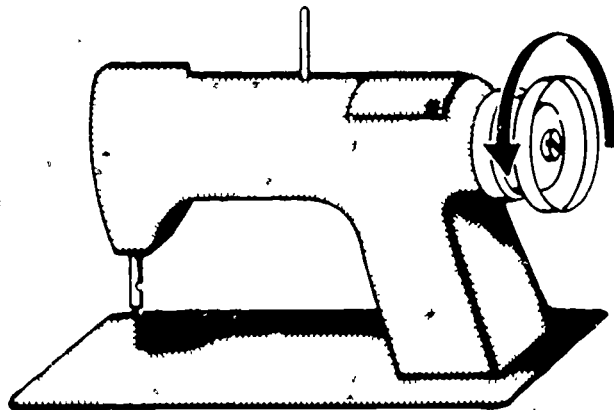
- Find the handwheel on your machine
- Print *handwheel* near each handwheel on this page.



18

The handwheel should be turned *toward* you on the machines we are using.

Turn your handwheel three complete turns *toward* you



What did the needle and needle bar do as you turned the handwheel?

The needle and needle bar moved _____ and _____

The needle and needle bar moved *up* and *down*.

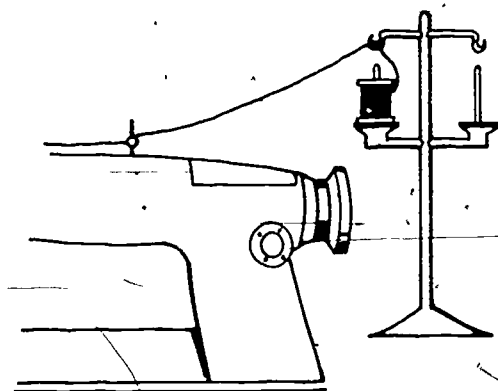
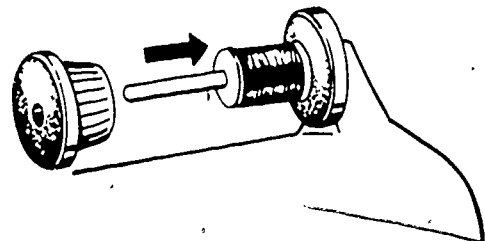
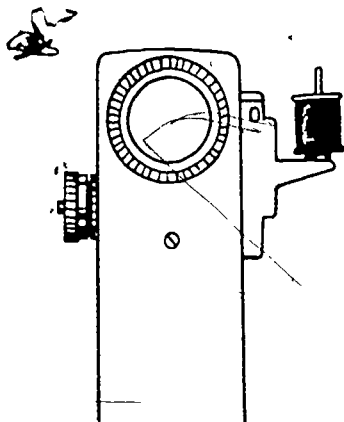
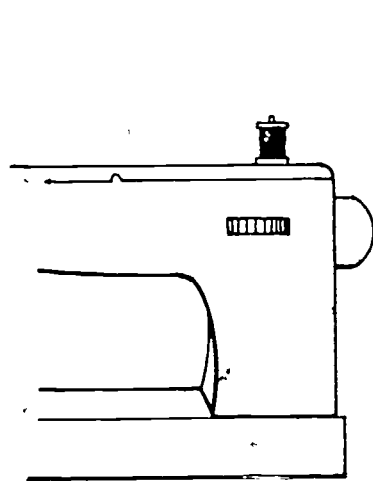
12a

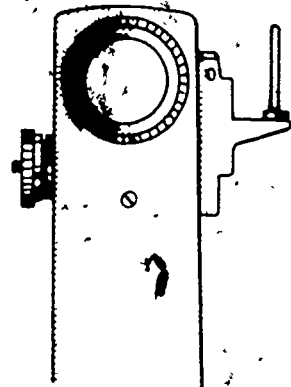
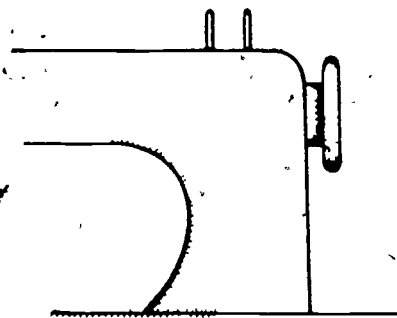
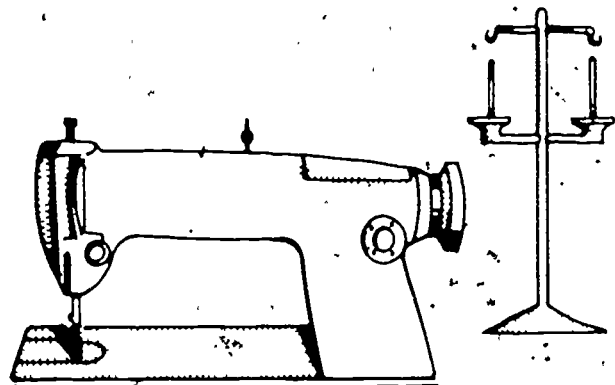
20

THREAD HOLDER OR SPOOL PIN

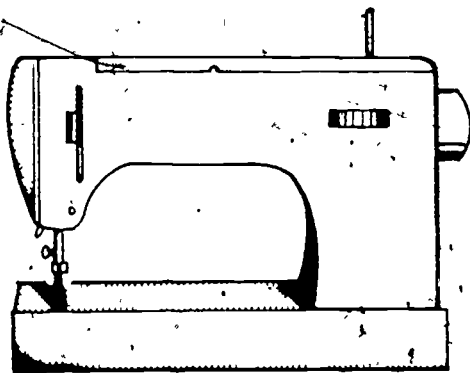
Every sewing machine has a *thread holder* or *spool pin*. These are not all the same shape, or in the same place.

*Find a part that would hold a spool of thread on your machine.



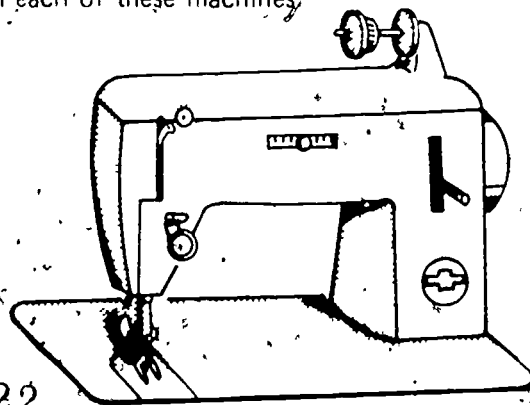


Draw a circle around the *spool pin* or *thread holder* on each of these machines.

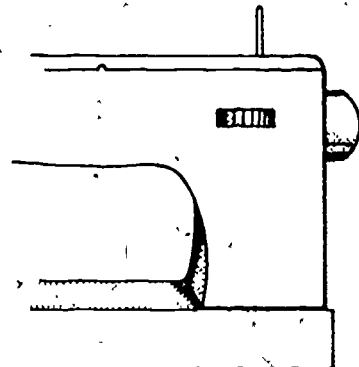
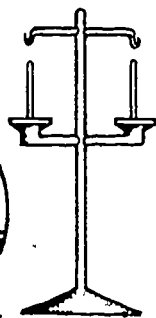
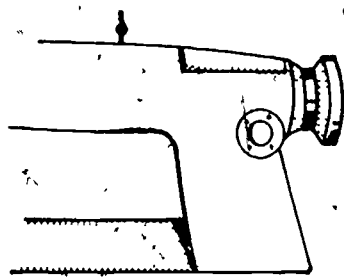
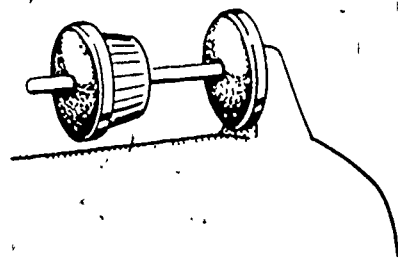
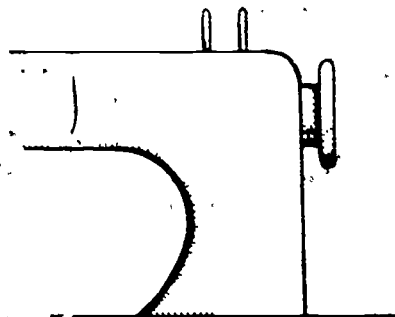
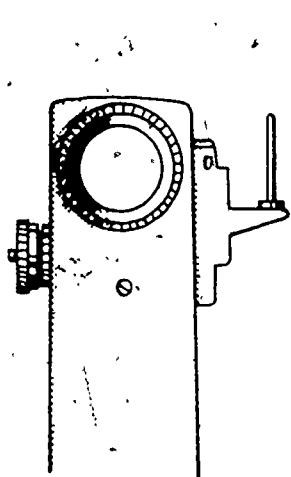


14

22.



Draw a circle around the *spool pin* or *thread holder* that looks most like yours.



Thread holder or spool pin

1. Is your spool pin or thread holder on top of the machine?
2. Is your spool pin or thread holder on the back of the machine?
3. Is your spool pin or thread holder separate from the machine?
4. Does your thread holder or spool pin point upward?
5. Is your thread holder or spool pin on its side with a "keeper" to stop the spool from moving?

1. _____
2. _____
3. _____
4. _____
5. _____

Print or write the name of the machine you are using.

Place a spool of thread on your spool pin or thread holder.

If you have a Consew machine, you should have

Yes as answers to 3 and 4

No as answers to 1, 2, 5

If you have a Viking machine, you should have

Yes as answers to 2 and 4

No as answers to 1, 3, 5

If you have a Singer Golden touch machine, you should have

Yes as answers to 1 and 5

No as answers to 2, 3, 4

If you have a _____ machine, you should have

Yes as answers to

No as answers to

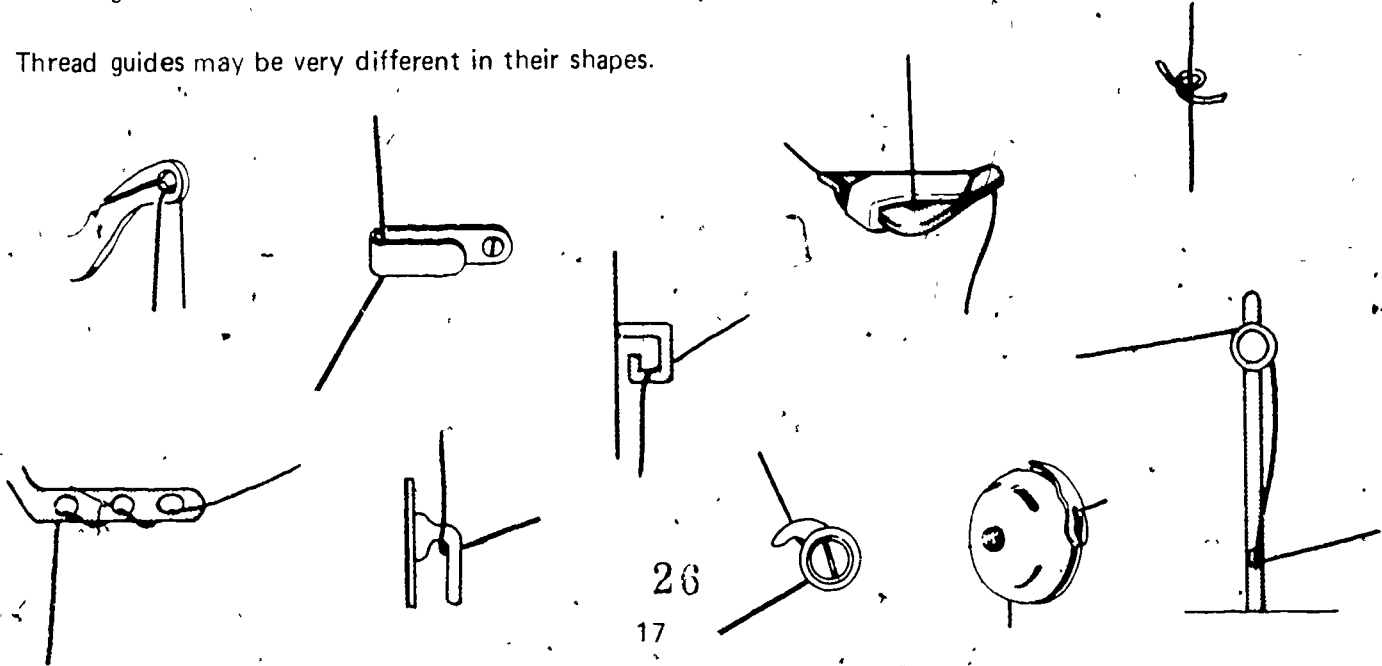
If you have a machine other than the three listed above, your teacher will have to fill in the numbers above.

THREAD GUIDES

All sewing machines have *thread guides*.

Thread guides are alike in their use, which is to hold thread in place.

Thread guides may be very different in their shapes.



Every thread guide is made to do just one job, which is to hold or guide your thread exactly where it is needed. Thread guides do not move.

Because a thread guide has only one use or purpose – to guide your thread – you must be very careful when you place your thread in it. This means that you must thread the guides in the *right order* and with the thread going in the *right way*.

Some thread guides must be threaded like a needle. With other thread guides you may hook, twist, or snap your thread in place.

Thread, hook, snap, or twist your thread through the first thread guide on your machine. (The first thread guide will be the guide nearest the thread holder or spool pin.)

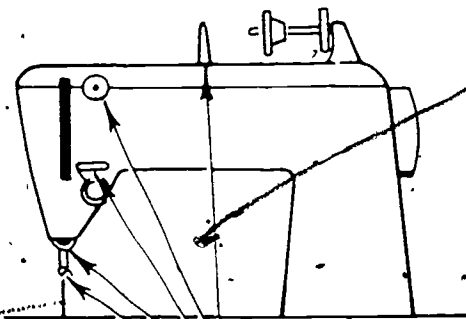
There is a threading pattern or order which you must learn for your machine. Knowing where the thread guides are will help you with this. Find the thread guides on your machine. Count them.

How many did you find on your machine?

How many thread guides must be threaded like a needle?

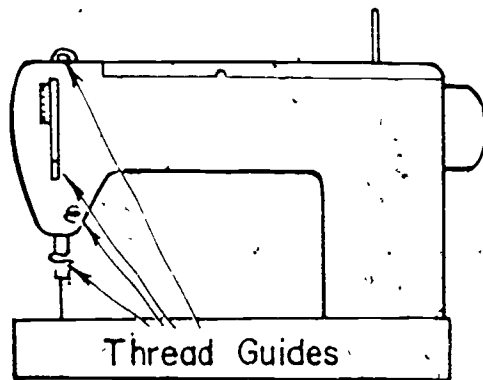
How many thread guides need the thread to be hooked, snapped, or twisted?

	Number of guides	Number of guides that must be threaded	Number of guides where thread may be hooked, snapped or twisted
Consew	8	2	6
Singer	5	1	4
Viking	4	0	4

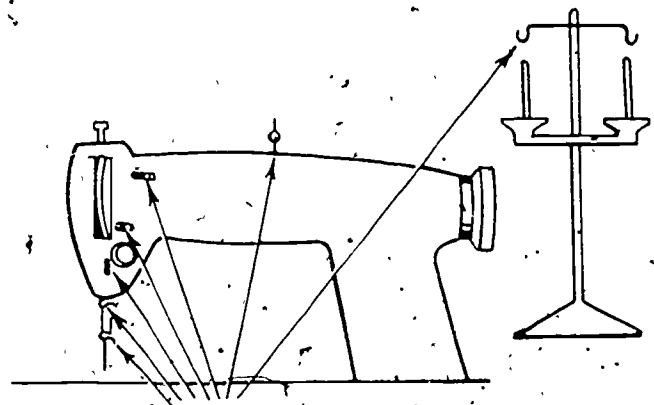


Thread Guides

Are the thread guides all in the same place on each of these machines?

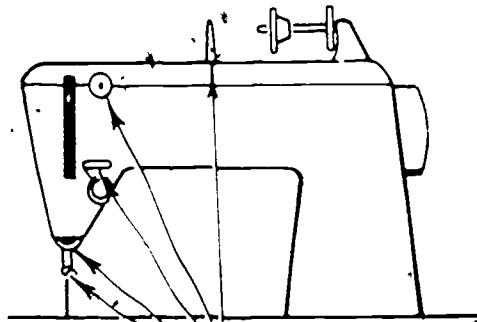


Thread Guides

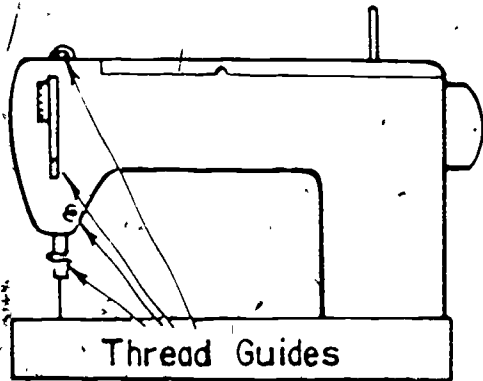


Thread Guides

No

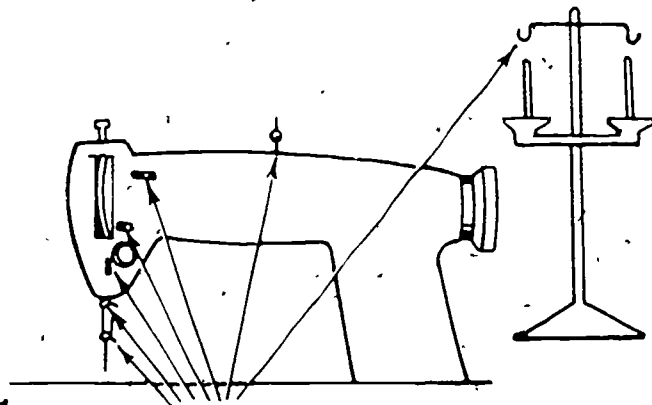


Thread Guides



Thread Guides

Do all these machines have the same number of thread guides?



Thread Guides

No



Spool Pin

1

2

3

4

5

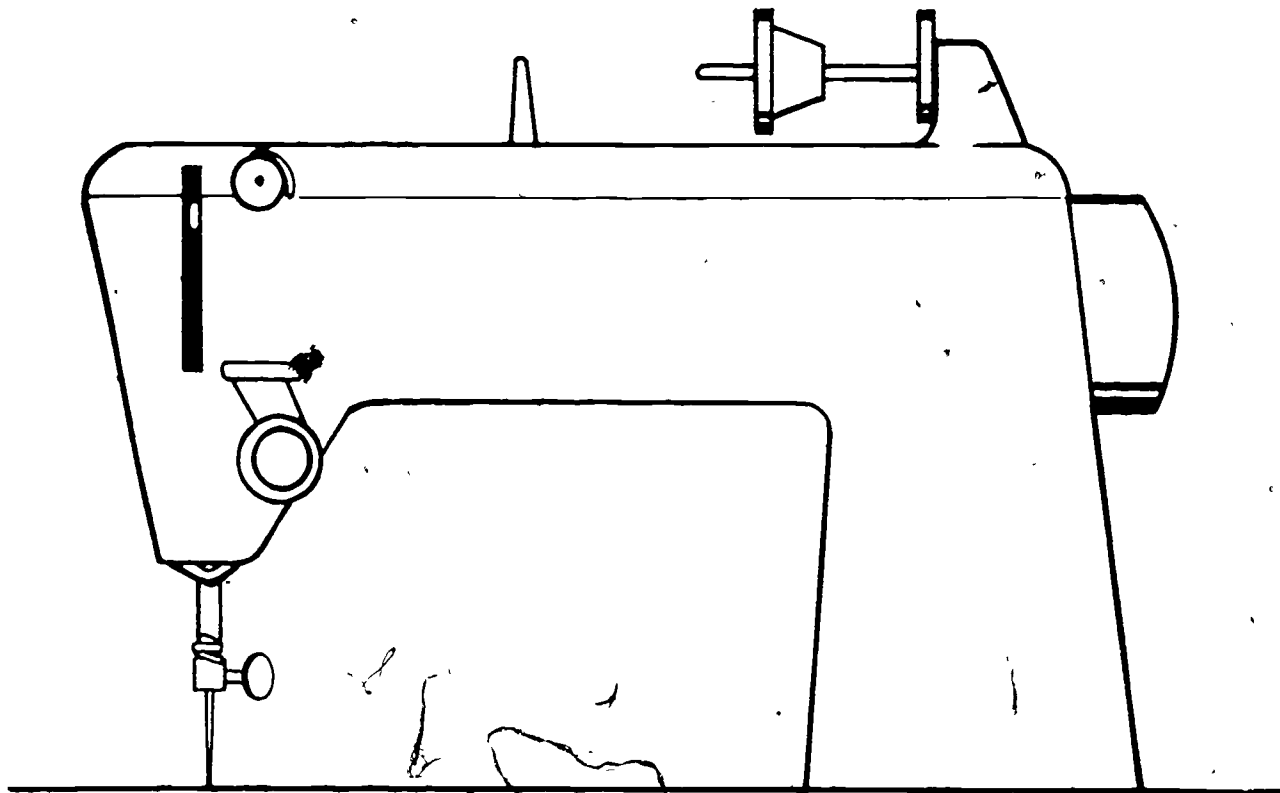
1. Choose a drawing from one of the next three pages that looks most like your machine.

2. Place white paper over the drawing and trace the outline of the machine.

3. Draw circles around the thread guides.

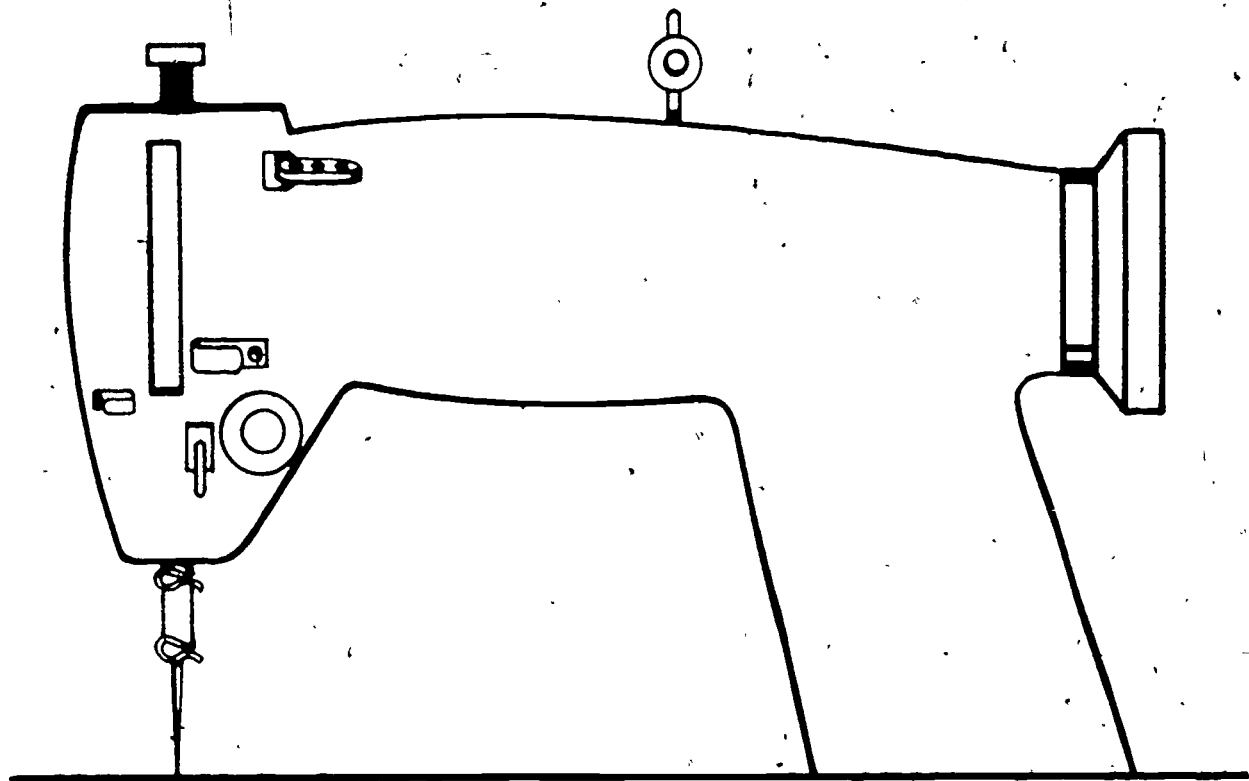
4. Number the circles beginning with the guide nearest the spool pin.

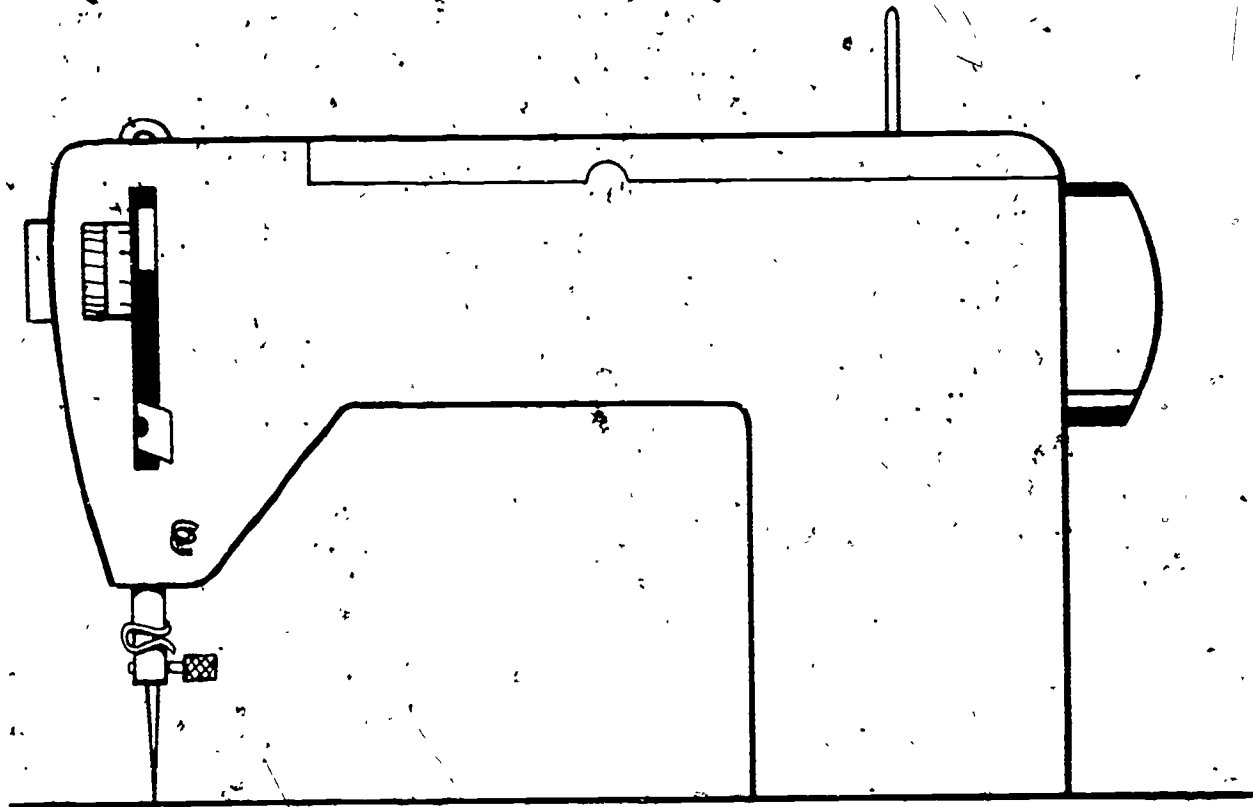
Your drawing will look something like this page, without the printing.



23

34





TENSION

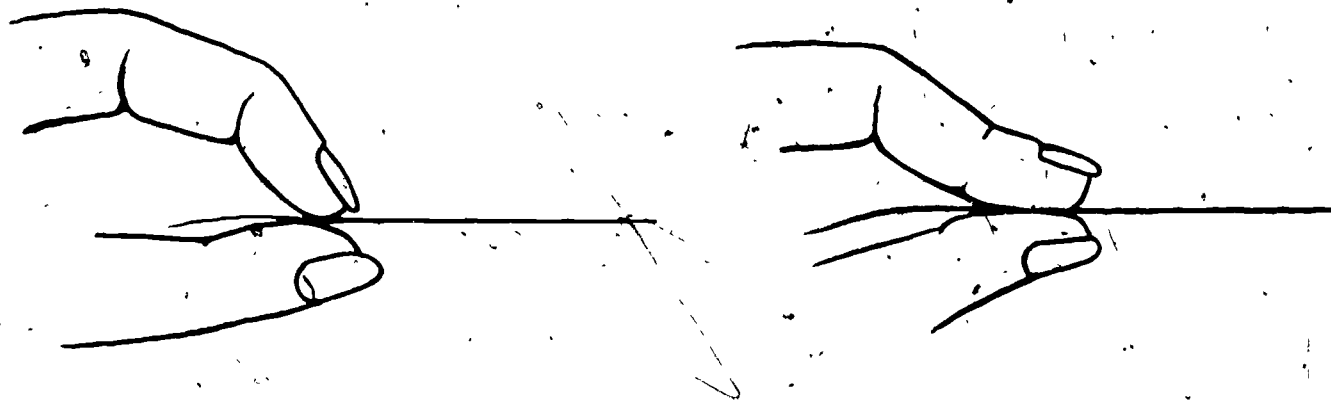
You have placed your spool of thread on the spool pin, and hooked, snapped, threaded, or in some way placed your thread in the first thread guide. ➤

Next you must understand what is meant by tension and why you will need to change or regulate tension on the thread

Tension is needed on the thread in sewing machines to make your stitches even. "Even" stitches are stitches that are all alike – not only in length or width but alike in every way.

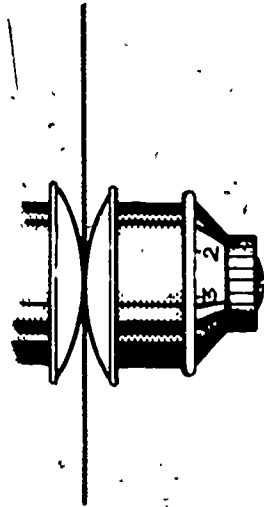
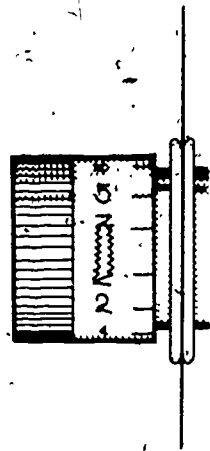
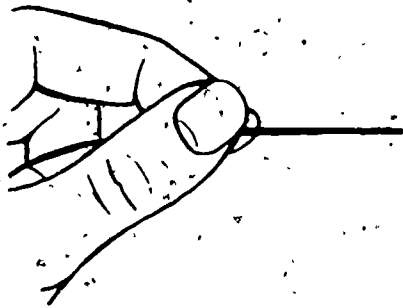
- 1 Cut a length of thread as long as your hand.
2. Hold this lightly between your thumb and finger.
3. Pull the thread with your other hand. Was this easy to do?
- 4 Now pinch your thumb and finger tightly on the thread.

5. Pull the thread as you did before. Is it harder to pull?



The amount of pressure between your thumb and finger caused the amount of tightness, or tension, of the thread

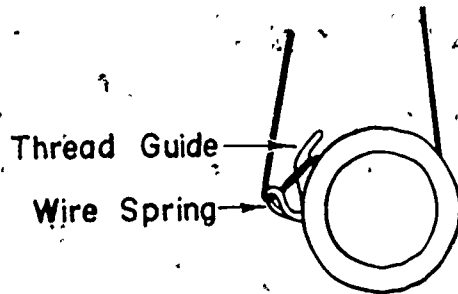
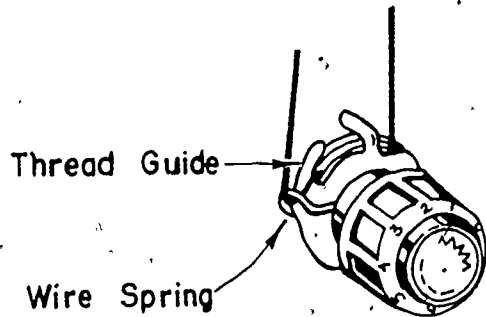
Smooth metal parts are pressed together, as your fingers were, to control the tension of the thread.



In addition to the smooth metal parts that control the thread, tension regulators may have a thread guide and a wire spring

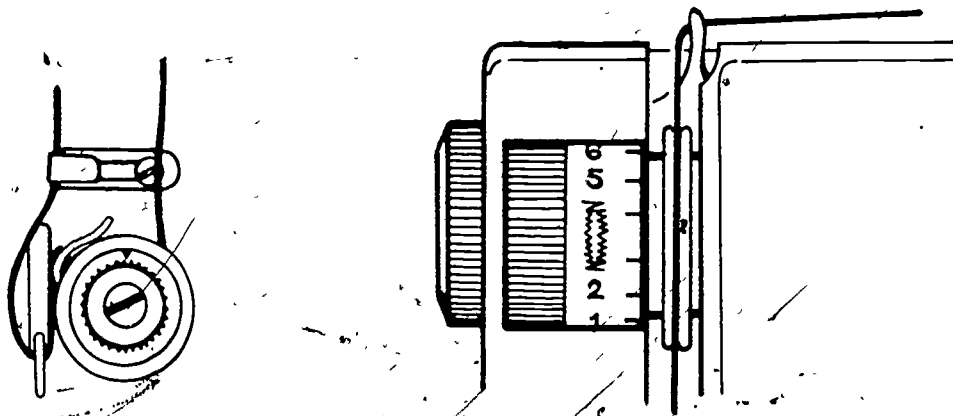
Check your tension regulator with these.

If you cannot see a thread guide as part of your tension regulator, turn to the next page.



Some thread guides are near the tension regulator, but not part of the tension regulator

Does your tension regulator look like one of these?

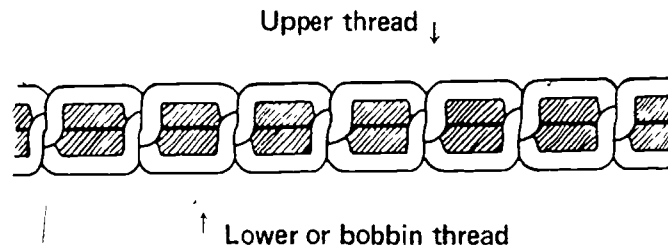


If it does, your thread guides are not part of the tension regulator.

When used, the wire spring helps hold your thread so every stitch is the same.

The tension regulator only changes the tension on the thread coming from the spool — the upper thread.

Tension on the bobbin thread does not need to be changed, since this is usually correctly set at the factory.



Correct tension is important because without it your stitches will break or pucker, your seams will be weak, and your work will not look good.

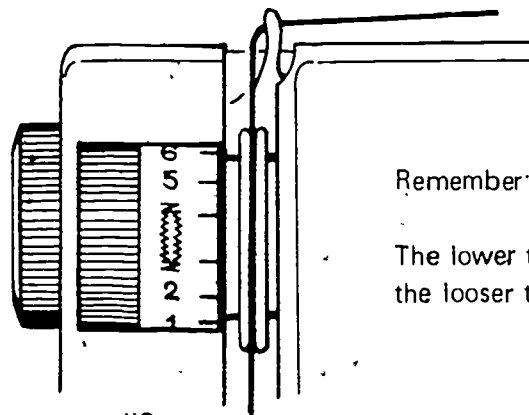
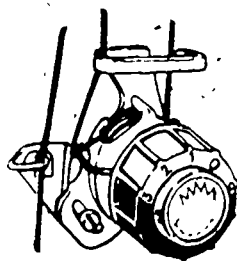
There are three things that affect the tension you need. The kind of *stitch* you want, the *thread* you are using, and the *fabric* you are sewing.

Since these things do change, you need to know how to change or regulate tension. This is done by moving a dial of some kind.

You will not practice regulating the tension until you have learned the parts of the machine, and the complete threading pattern

Most tension regulators will have a dial with numbers to show the amount of tension on the thread.

Using numbers helps when you want to dial the same setting at another time.



Remember

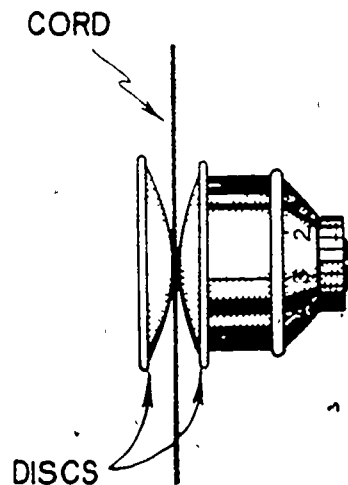
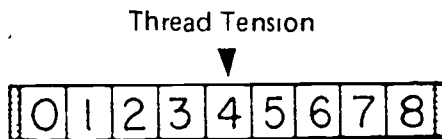
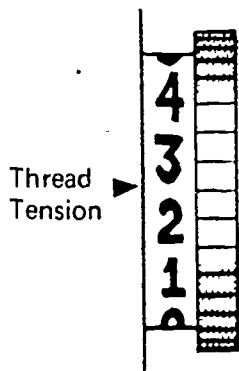
The lower the number,
the looser the thread.

32

43

Some machines have a separate dial which controls the tension.

The lower the number on the dial, the looser the tension on the thread.



Cut a piece of very heavy thread or cord about as long as your hand. Take one end of the cord in each hand, and place the cord *between* the discs of the tension regulator. The discs should spread apart so you can see clearly the space where your thread will go. Pull the cord through the discs, and throw it away.

Now place the spool of thread on the spool pin, thread the guides, and continue so you place your thread *between, over or under* the tension parts as needed for your machine. If your machine has a wire spring as part of the tension regulator, be sure your thread goes over this so that pulling down on your thread will move the wire spring down.

Remove the thread, and thread up to and through the tension regulator. Do this three times.

Ask your teacher to check the threading to this point.

Remove the thread from the machine. Re-thread it at least three times.

Review page

Match the name of the part and its use.

<u>Name of Part</u>	<u>Use</u>
1. ____ handwheel	A. holds thread in place
2. ____ spool pin or thread holder	B. controls tightness of thread
3. ____ thread guide	C. moves needle up and down
4. ____ tension regulator	D. holds spool of thread

1. C

2. D

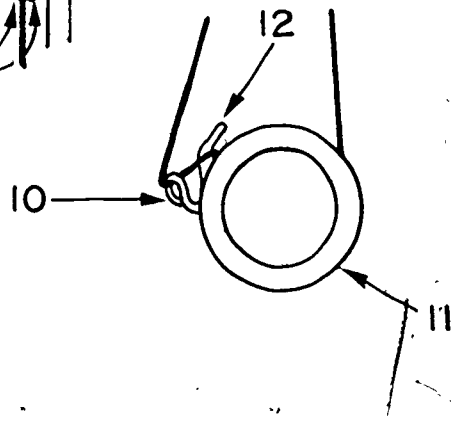
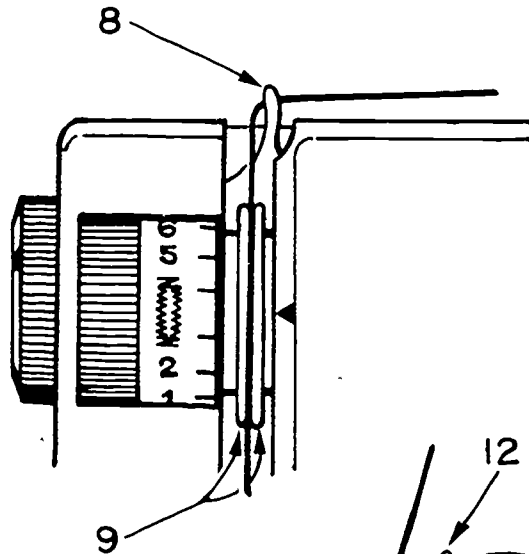
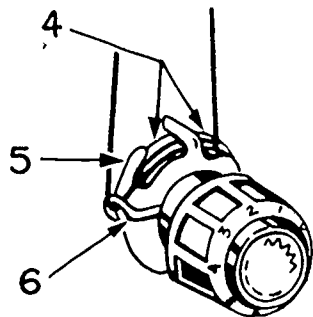
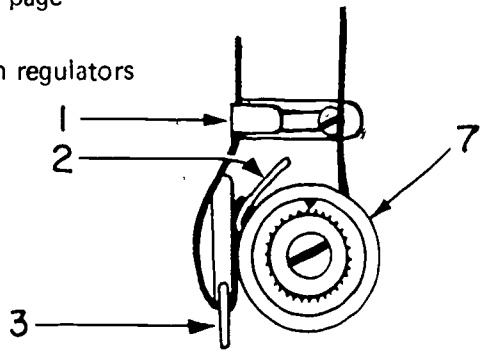
3. A

4. B

35a

Review page

Tension regulators



Write or print the name of the part to which the arrow points.

wire spring

thread guide

discs

36

48

1. thread guide
2. wire spring
3. thread guide
4. smooth metal parts — discs
5. thread guides
6. wire spring
7. discs — smooth metal parts
8. thread guide
9. smooth metal parts — discs
10. wire spring
11. thread guide
12. discs — smooth metal parts

36a

49

THREAD TAKE-UP LEVER

A tension regulator and a *thread take-up lever* are necessary parts of a sewing machine.

Turn the handwheel toward you. Watch the needle and another metal part move up and down. This metal part or *thread take-up lever* will have a small hole in the end, to hold your thread.

Is the take-up lever on the front of the machine?

Does the take-up lever move in an opening or slot?

How does it move?

1. Yes

2. Yes

3. Up and down



37a

The thread take-up lever moves the thread so it is ready to make the next stitch.

Some take-up levers have a hole that must be threaded like a needle. Other take-up levers have an opening into which the thread can be slipped or hooked.

All take-up levers move up and down in a slot and have an opening or hole for thread.

The tension regulator is always threaded before the take-up lever.

Remember when threading: *tension before take-up.*

There may be one or more thread guides between the tension and the take up. Count the thread guides on your machine between the tension and the take-up.

How many did you find? _____

Thread your machine using all the thread guides, including those between the tension and the take-up.

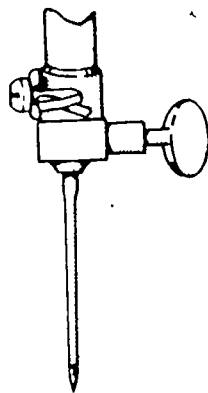
- Ask the teacher to check your threading order.
- Remove and re-thread at least three times. The more you practice threading the easier it becomes.

NEEDLE BAR AND NEEDLE CLAMP

The needle bar is a part that holds the needle clamp.

Try to loosen your needle bar with your fingers. You will see that it cannot be done.

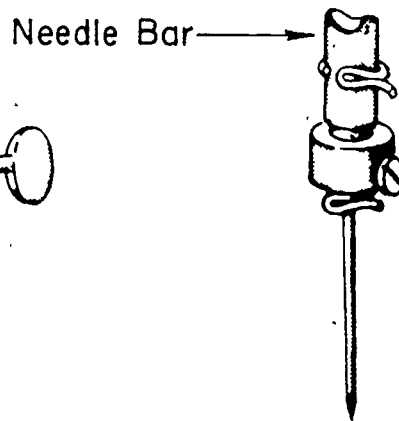
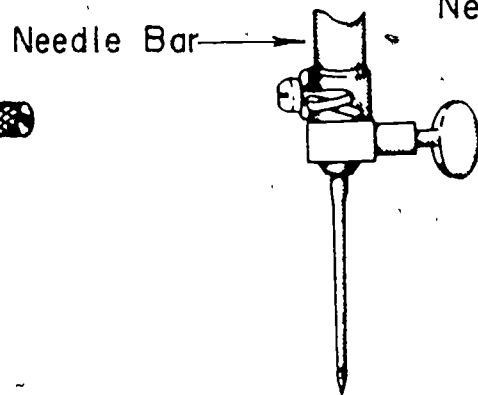
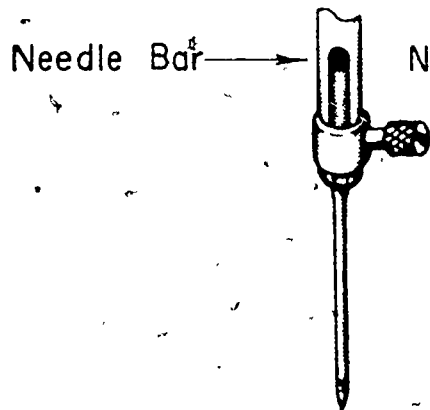
Print *needle bar* near each needle bar shown. Draw an arrow to each one.



40



54



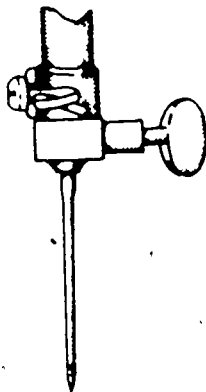
40a

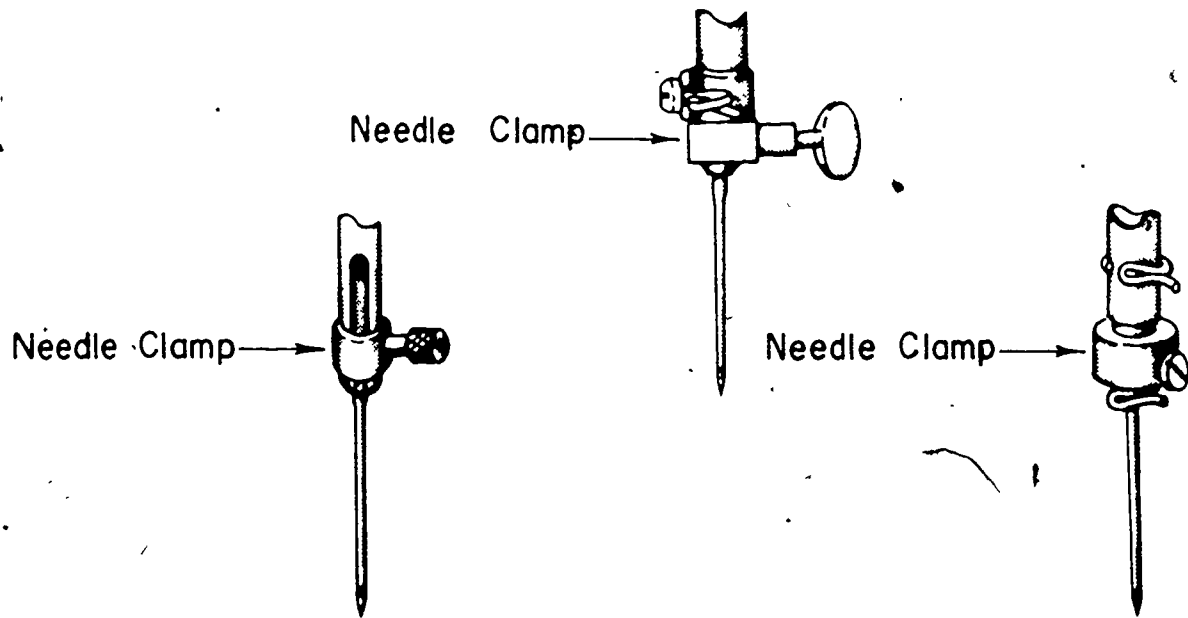
The needle clamp is a part on the needle bar that holds the needle in place.

It usually can be made looser or tighter by hand and/or with a screwdriver.

Try to loosen your needle clamp with your fingers. If you cannot, ask your teacher to show you how to use the screwdriver to loosen it.

Print *needle clamp* near each needle clamp shown. Draw an arrow to each one.



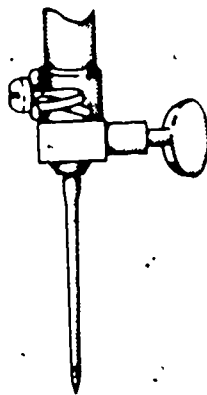


41a

Each needle bar also has at least one thread guide that holds the thread close to the needle.

How many thread guides are on the needle bar of your machine?

Print *thread guide* near each thread guide shown. Draw an arrow to each thread guide.



42



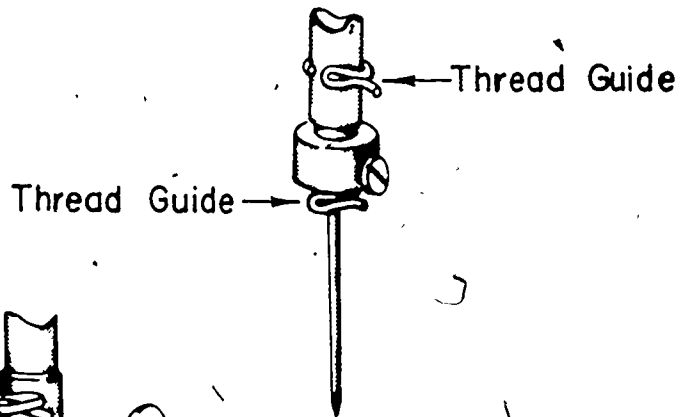
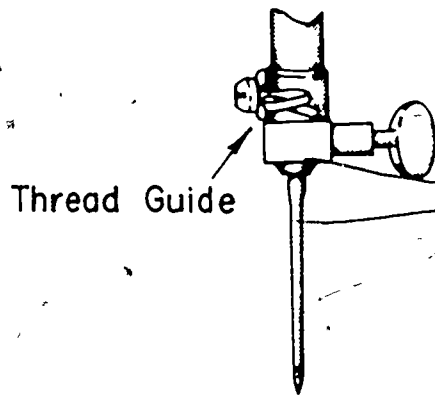
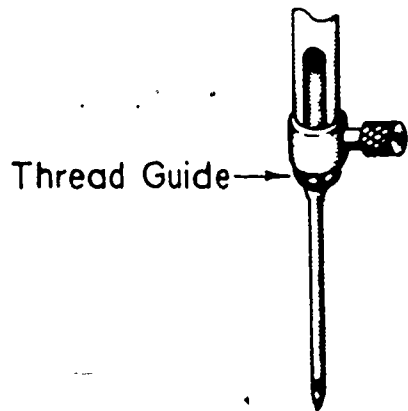
58

Number of thread guides on the needle bar

Consew 2

Singer 1

Viking 1

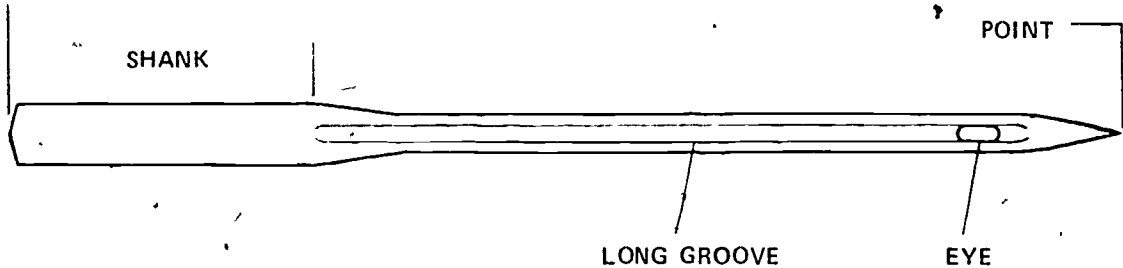


42a

59

NEEDLES

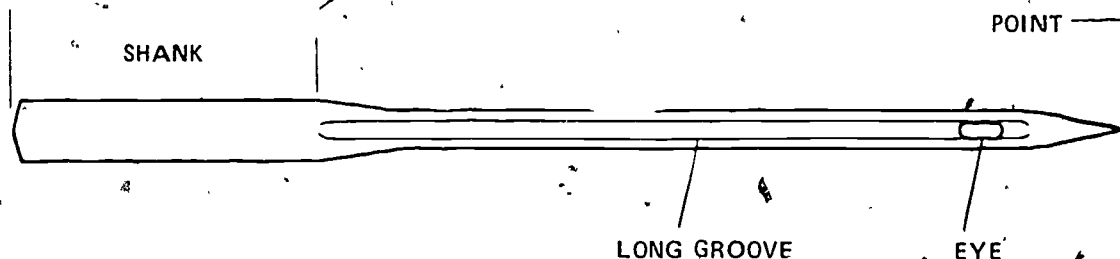
A needle has parts with names for each.



shank. the larger end of the needle which is held in the needle clamp. The shank may be round, or it may have one flat side.

groove a long thin cut down one side of the needle. The thread fits into this groove so the thread does not break when the needle enters the fabric.

Needle parts

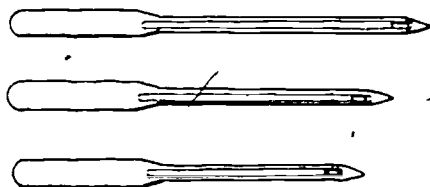


eye. a hole in the needle through which your thread goes. Needles and eyes are made in different thread sizes.

point. the part that goes through the material. Some points are very sharp. Others may be smoothly rounded. The rounded points are called *ball points*, and are used when sewing knitted fabrics.

Choosing the right needle for your machine is important. Needles come in different lengths for different machines. Always use a needle meant for your machine.

Samples of Different Lengths of Needles



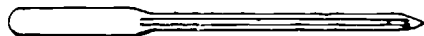
If the needle is too short it will not meet the bobbin thread, and your machine will not be able to make a stitch.

If the needle is too long it will bend or break, and may damage your machine. A needle is a small part of the sewing machine – but one that has much to do with the quality of your work.

Needles are made in different thicknesses or sizes for different uses.

Medium size or thickness needles are good for most materials you will be sewing, but you will need heavier or thicker needles for heavier materials. Thinner or lighter needles make better looking stitches in lightweight fabrics.

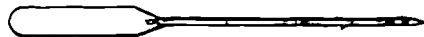
Thick



Medium



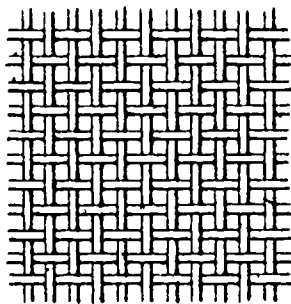
Thin



Needles that are too thin may cause the thread to break. Needles that are too thick may make holes too large for your thread.

Choose your needle point for the kind of material you intend to sew.

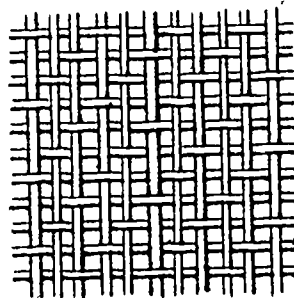
- Regular sharp points in light, medium or heavyweight needles for light, medium or heavyweight *woven* materials.



46

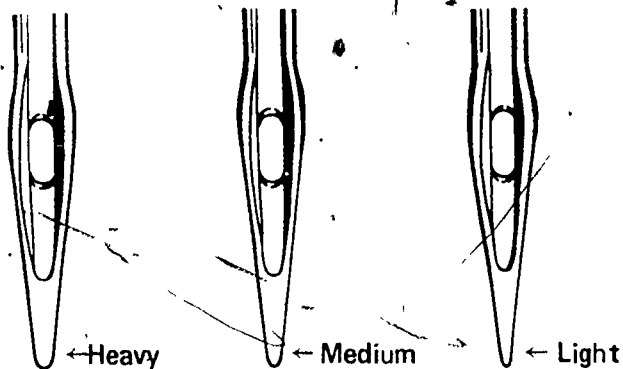


63

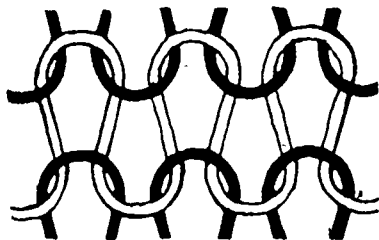


Sewing machine needles may be made with light, medium or heavy ball points.

The tip or point of the needle should be the same thickness as the yarn of the fabric.



Many kinds of clothing are being made from knitted fabrics. These knitted fabrics are made from yarns. Yarns are usually lightly twisted and the fibers separate more easily than the tightly twisted fibers in thread used in woven fabric. Knits are made by joining loops of the yarn, which makes a fabric that moves or "gives" with the body.



Because of this "give" special ball point needles have been made for use when knit fabrics are being sewed.



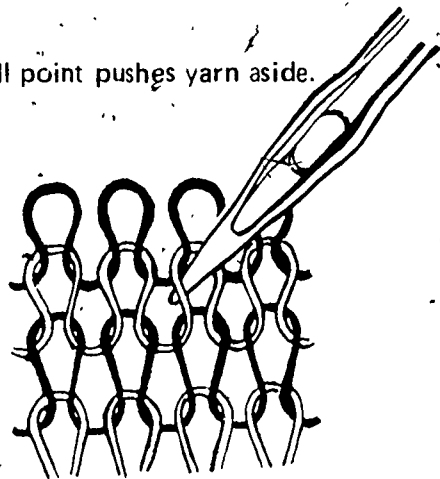
Ball Point



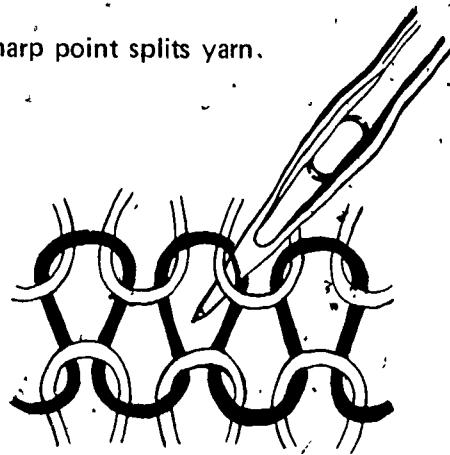
Regular Point

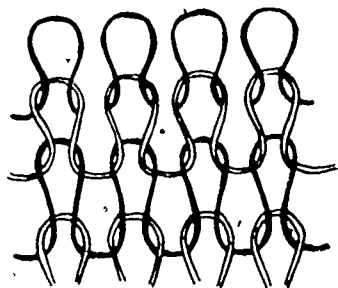
Ballpoint needles push the knit yarn stitches aside, rather than go through the yarn, which weakens it.

Ball point pushes yarn aside.



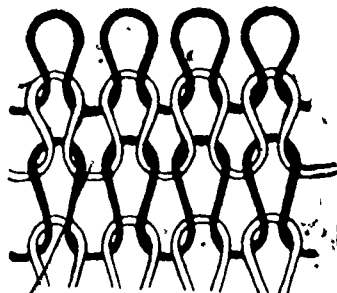
Sharp point splits yarn.



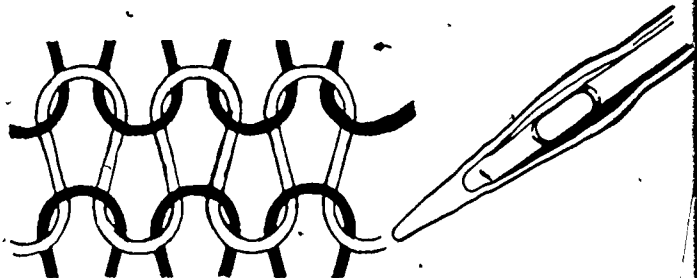


LIGHT

Your needle point should match the thickness of your yarn.



MEDIUM



HEAVY

50

67

Threading the needle

Take the thread out of the needle and thread the needle three or four times. Do this until you can do it easily.

One thing you will learn is that you are "boss" at your machine. You are the one who makes it possible for the machine to do the work it was made to do, or the one who keeps it from doing that work well.

A machine can only work as it should when every part is in order. Not threading one small thread guide can keep your machine from sewing as it should. So can using the wrong needle, a blunt or bent needle, or threading your needle in the wrong direction!

Let's see how good a "boss" you will be.

Be careful that your thread is in all thread guides between the take up and the needle.

Needles may be threaded from the front or the side. Look for the long groove in the needle. The eye will be found in the groove near the point.

Cut your thread end

Moisten and twist the end of the thread.

Pass the thread through the eye of the needle. Pull it through for about the width of your hand, or three inches.

Changing a needle

1. Turn handwheel until needle bar is at its highest point.
2. Loosen needle clamp. Remove needle if necessary.
3. Push new needle up into needle clamp and needle bar as far as it will go.
4. Tighten the needle clamp screw so needle is held firmly.

The long groove in the needle should face toward you in a Singer or Viking machine.

The long groove must face toward the left in a Consew machine.

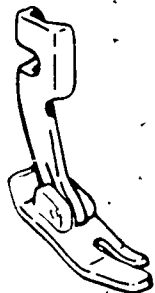
PRESSER FOOT

Another small part of your sewing machine is the presser foot. The presser foot holds your fabric in place.

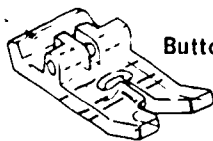
Presser feet are made in many shapes. Each foot has some special use.

There are many more than these shown.

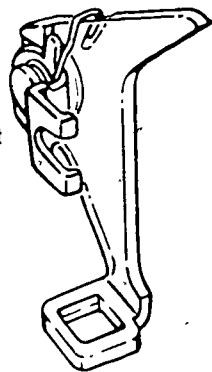
Straight Stitch Foot



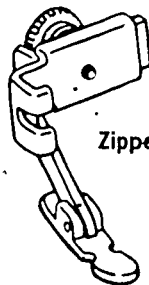
Buttonhole Foot



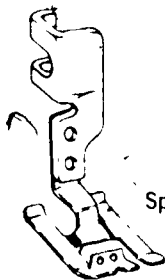
Darning and Embroidery Foot



Zipper Foot



Special Purpose Foot



General Purpose Foot



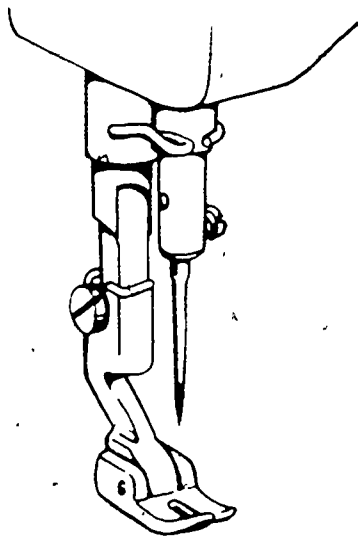
The presser foot will be found at the lower end of a presser bar.

The presser bar moves up and down in one of two ways. You may lift the presser foot lever by hand, or by a "knee lift". Either way lifts the presser foot bar and the presser foot.

Most machines have a presser foot lever on the back of the machine behind the presser foot bar.

If you are using the presser foot lever by hand, use your right hand to lift and lower. Reach past the needle and presser foot to the back of the machine. There you will find a metal part that can be moved up and down.

Lift and lower the presser foot lever five or six times.



If your machine has a knee-lift to move your presser foot up and down, press your knee against the knee-lift and watch the presser foot move.

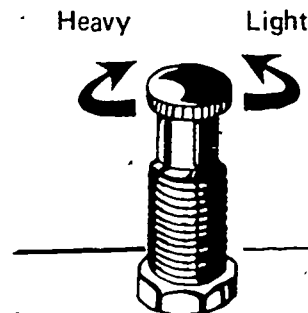
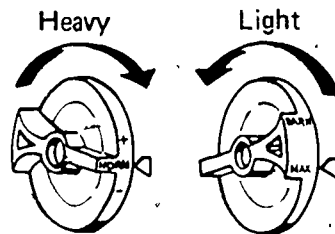
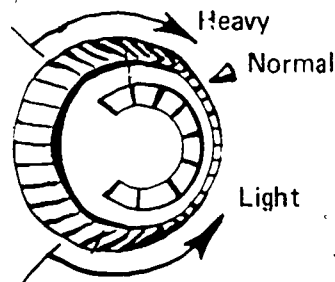
A knee-lift leaves your hands free to move your material. You will have better control of your fabric and can finish more work when both hands are used.

Press the knee-lift several times so you get the "feel" of lifting in this way.

Different materials need different amounts of pressure on the presser foot. Light materials need light pressure, heavier materials need heavier pressure.

Do not use more pressure than you need to move your material easily.

These show some ways of changing the amount of pressure on the presser foot.



There will be a dial or some means of changing the amount of pressure on the presser foot.

Since this may be on top of the presser foot bar, on the side of the machine, or inside the swing-open face plate found on some machines, ask your teacher to help you find this control.

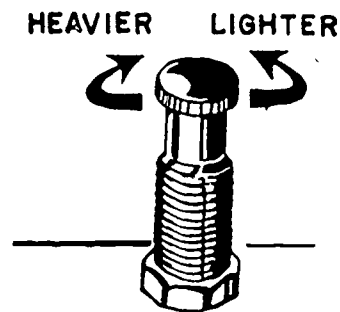
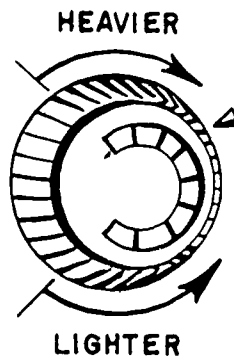
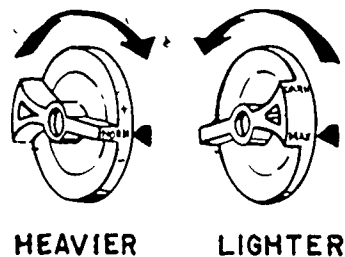
Look in your sewing machine instruction book for the part about *presser foot pressure* or *regulating presser foot pressure*.

Read this with care. It will make it easier for you to change your pressure to get the result you want.

You will need to know two things before you change pressure.
the kind of material you want to sew, and the kind of sewing you want to do.

Materials may be light, medium, or heavy — or any weight between these. The kind of sewing may be straight or zigzag stitching, embroidery or darning.

You will try your stitch choice on samples of your material, making changes until you are happy with your result. You will find by "trial and error" what pressure is right for your use.



Fill in the blanks with the name of the part to which the arrow points.

presser foot bar

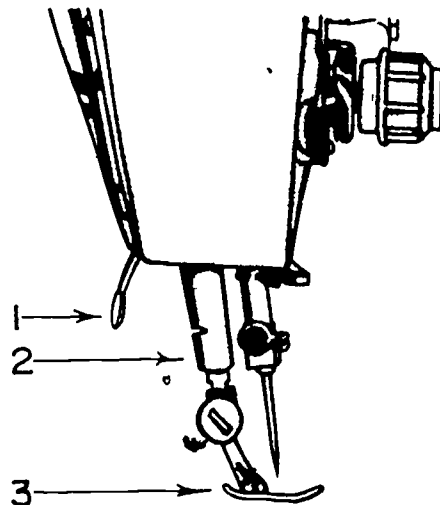
presser foot lifter

presser foot

1. _____

2. _____

3. _____



Fill in the blanks with the name of the part to which the arrow points

presser foot bar

presser foot lifter

presser foot

1 Presser foot lifter

2 Presser foot bar

3 Presser foot

59a

77

Review, page

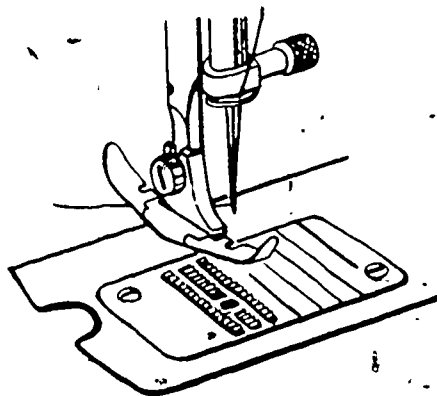
Make a list of the sewing machine parts shown here. How many did you know? If you need help with spelling part names, look in the book.

1. _____

2. _____

3. _____

4. _____



5. _____

6. _____

7. _____

8. _____

needle

needle bar

needle clamp

thread guide

presser foot or zipper foot

presser foot bar

plate or face-plate

feed or feed dog

60a

FACE PLATES AND FEED DOGS

You have learned about the parts that hold the thread in place, and that move it as needed.

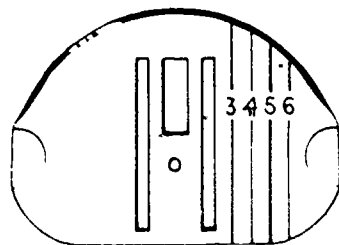
You know that the presser foot holds the material ready to be sewed.

When you lower the presser foot you can see it touch, or almost touch, a plate that has three or four slots, or long narrow openings, and a hole or slot for the needle. This plate may be called either the face plate or throat plate.

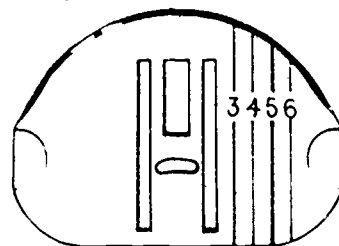
You can see sets of teeth that will move your fabric along as you sew if you look carefully at the slots in the faceplate. These sets of teeth, or "feed dogs", are there to move or feed the fabric to the needle. They are sometimes called "the feed".

Face Plates

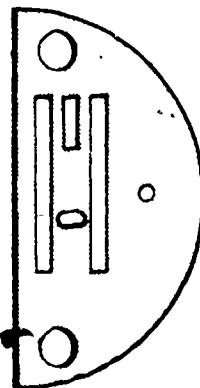
"Plates" are sometimes also called "face plates" or "throat plates".



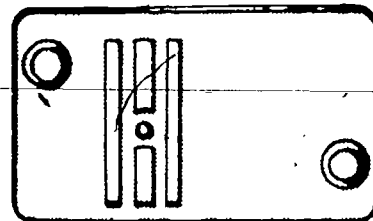
STRAIGHT STITCH PLATE



GENERAL PURPOSE PLATE



GENERAL PURPOSE
PLATE



STRAIGHT STITCH PLATE

Face plates may be different shapes and sizes in different machines. You may have face plates that are different because they are used to do special things.

The plates most often used are either general purpose or straight stitch.

Feed dogs

Take the thread from the eye of the needle

Place a piece of paper or fabric under the presser foot. Turn your handwheel *toward* you several times. Watch your paper or fabric move. Remove the paper or fabric. Place a finger tip on the 'teeth' of the feed-dog - *not* under the needle, please! - and turn your handwheel slowly toward you. You will see and feel the feed dog teeth raise and lower as the wheel turns.

Feed dogs are not large or powerful enough to pull the whole piece or pieces of fabric you are sewing through the machine. Your job is to guide and move the fabric so it does not strain or pull at the stitching edge.

Review page

Look at your machine and list the parts in the order you place thread in or on them. This will give a threading pattern for your machine.

1 Spool pin or thread holder

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

11 _____

Some words you may need are.

tension regulator

discs

thread guide

needle

wire spring

spool pin

thread take-up lever

Does your threading order match one of these?

	<u>Consew</u>	<u>Viking</u>	<u>Singer</u>
1	spool pin	spool pin	spool pin
2	thread guide	thread guide	thread guide
3	thread guide	tension discs	tension thread guide
4	tension discs	thread guide	tension discs
5	wire spring	take up lever	wire spring
6	thread guide	thread guide	thread guide
7	thread guide	thread guide	take-up lever
8	take up lever	needle	thread guide
9	thread guide		thread guide
10	thread guide		needle
11	needle		

BASE

You have learned the names and uses of many parts on the "head" or upper part of the sewing machine

Now you will learn about some parts in the lower part of the machine, often called the "base"

One of the parts in the base is the bobbin, a part that is used with every stitch made because it holds the lower thread ready for use. No thread on the bobbin -- no stitch from the machine!

BOBBIN

A bobbin is a small spool that holds the lower thread supply.

Bobbins usually will not fit or work well except in the machine for which they were made.

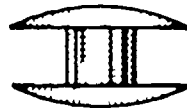
The wrong bobbin could break your needle and damage your machine. This means you must be certain you have a Consew bobbin for a Consew machine, a Viking bobbin for a Viking machine, a Singer bobbin for a Singer machine, and the matching bobbin for any other machine.



METAL



METAL



METAL



TRANSPARENT
PLASTIC

You must fill the bobbin with thread, usually of the same kind and color as the thread on the upper part of the machine.

The thread must be wound smooth and even to help your machine work at its best.

Do not overfill your bobbin

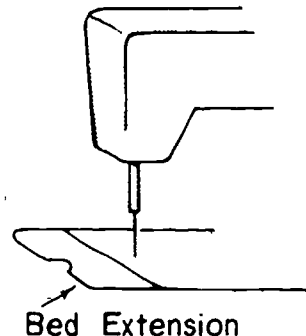
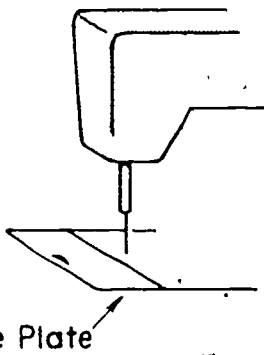
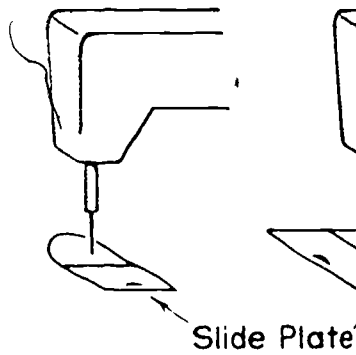
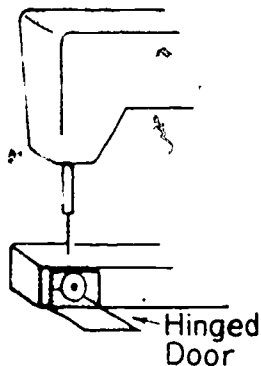
Most bobbin winders stop winding when the bobbin is wound as it should be. The thread should not be wound to the edge of the bobbin.

Too much thread will keep the bobbin from moving easily in the bobbin case.

Before you can wind or fill your bobbin, you must find it.

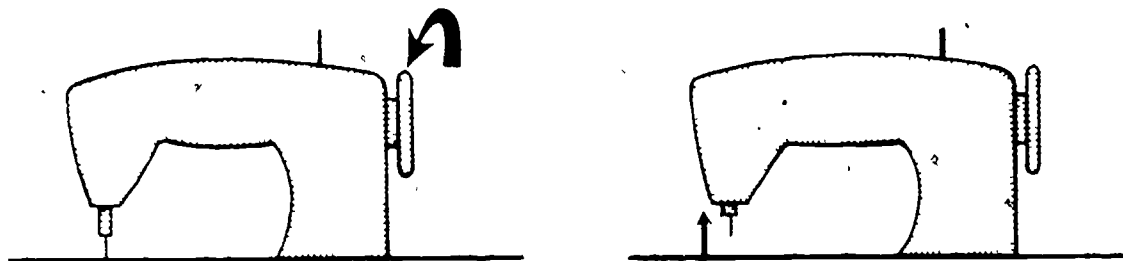
Sewing machine bobbins are in the base of the machine close to where the needle moves up and down.

Look at your machine for a plate that slides, a door that opens, or some other kind of opening that will make it possible for you to get to your bobbin.



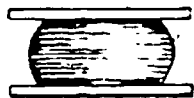
Removing the bobbin

Turn the handwheel *toward* you until the needle reaches its highest point



There are machines that do not fill bobbins inside the machine but that stop the sewing action while the bobbin is being filled

There are other machines that may fill bobbins while you sew



YES!



NO!



NO!

You know what a bobbin is, what it is used for, where to find it, and now you must learn how to fill it correctly

An unevenly wound bobbin can cause problems.

Since a correctly filled bobbin is so important, this is a good time for you to begin your "power on" use of the machine

The bobbin will be wound much more quickly and evenly with a machine than by hand.

When you are ready to begin winding the bobbin, push the prongs of the plug into the outlet.

Look in your instruction book for a place where it will tell you and show you how to place your thread and get your machine ready to wind the bobbin

Bobbin winding or *Winding your bobbin* may be the way this is listed in the index of your instruction book

Look for help first in the book. If you still need help, what you have learned from reading the instruction book will help you understand better what your teacher says. Still need help? Ask your teacher

Some sewing machines have a "stop motion" control to stop your needle bar and feed dog from moving while the bobbin is being filled.

This "stop motion" control may be part of the handwheel.

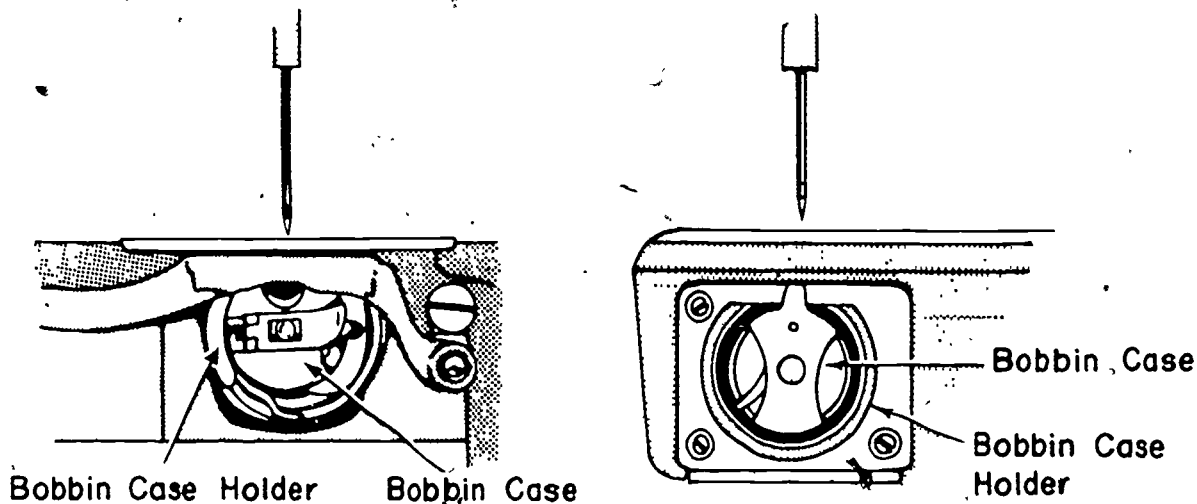
Ask your teacher if your machine has a stop motion control.

If it does have such a control ask how it is used.

With many sewing machines the *bobbin* is inside a *bobbin case*, and cannot be seen

The *bobbin case* can be seen

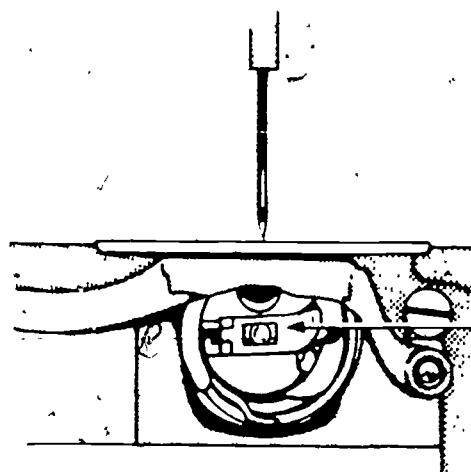
The *bobbin* cannot be seen - until you take the *bobbin case* from the bobbin case holder.



To take out the bobbin case you must either *lift a latch* or *pinch a latch* to make it open.

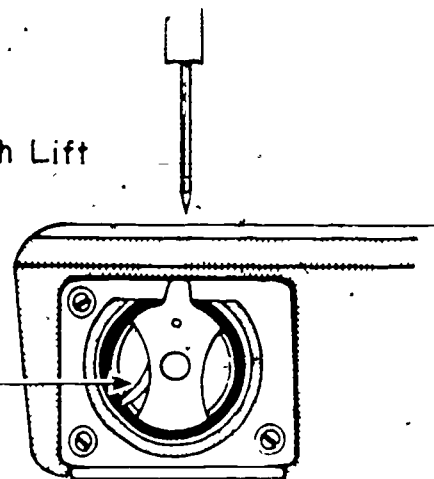
Hold the latch open as you take the bobbin case from the machine.

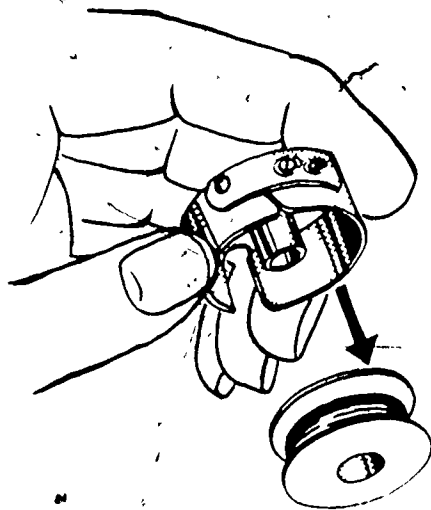
While the latch is held open the bobbin will stay inside the case



Bobbin Case Latch Lift

Bobbin Case Latch Pinch



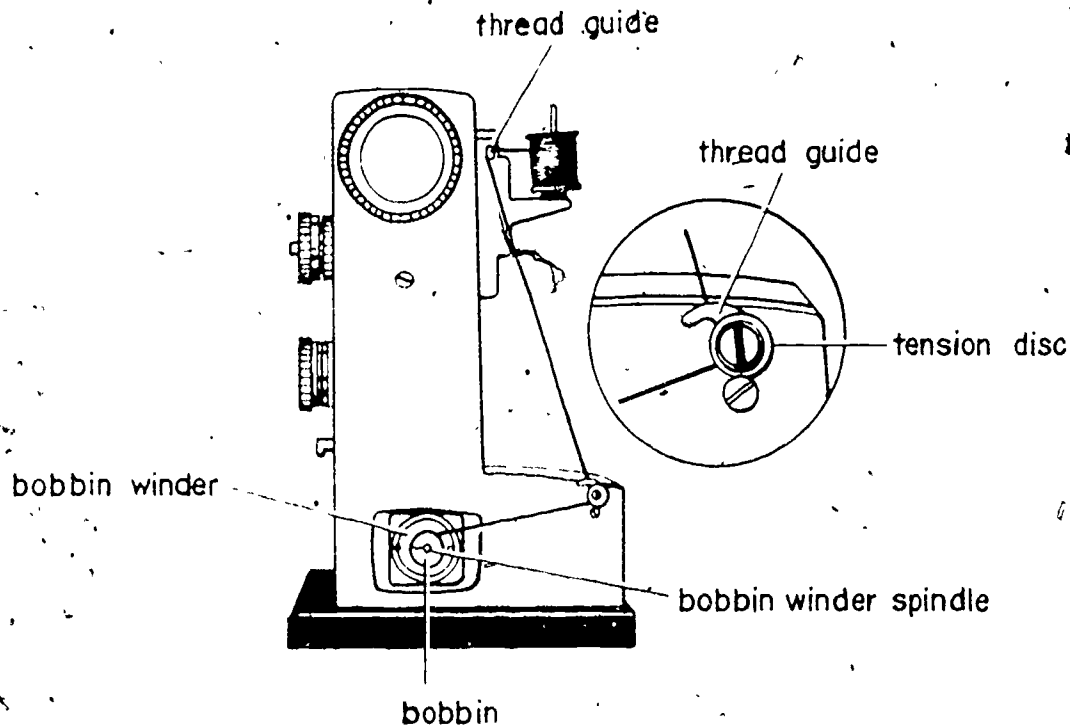


Hold the case open side down. The bobbin will fall out.

These are the general rules for filling bobbins, except those filled inside the machine

- 1 Slide bobbin on bobbin winder
- 2 Thread from spool through guides to bobbin
- 3 Wrap thread around bobbin several times
- 4 Hold thread end while you push down lightly on the control
- 5 Let go of the thread end as soon as the thread begins to wind on the bobbin.
- 6 Stop winding *before* the bobbin is completely filled. Cut the thread.

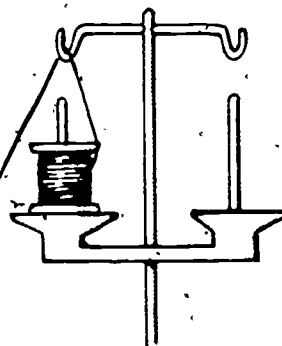
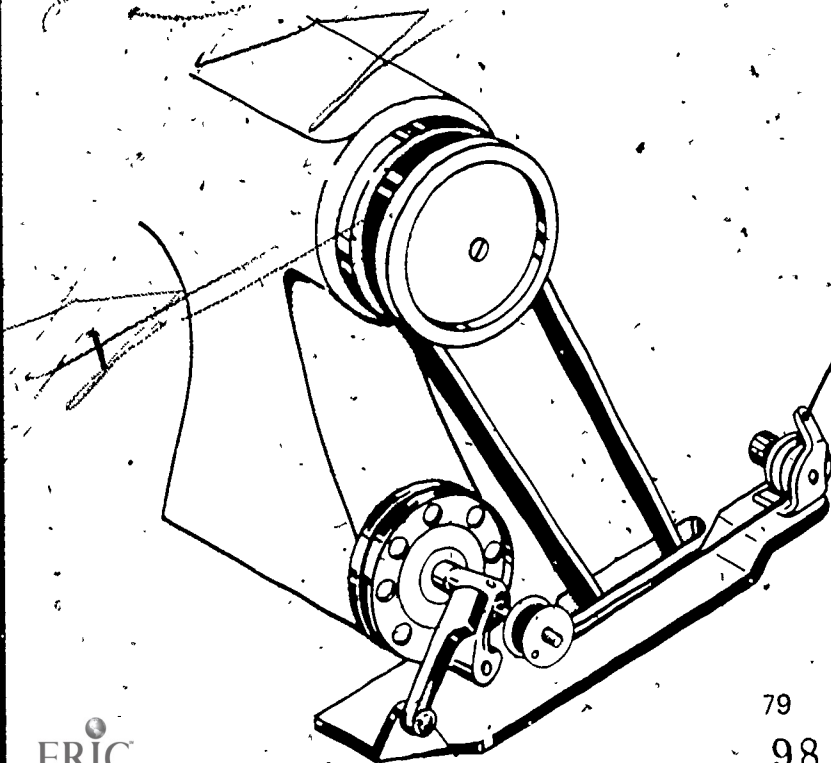
Winding a Viking bobbin



Winding a bobbin - Viking machine

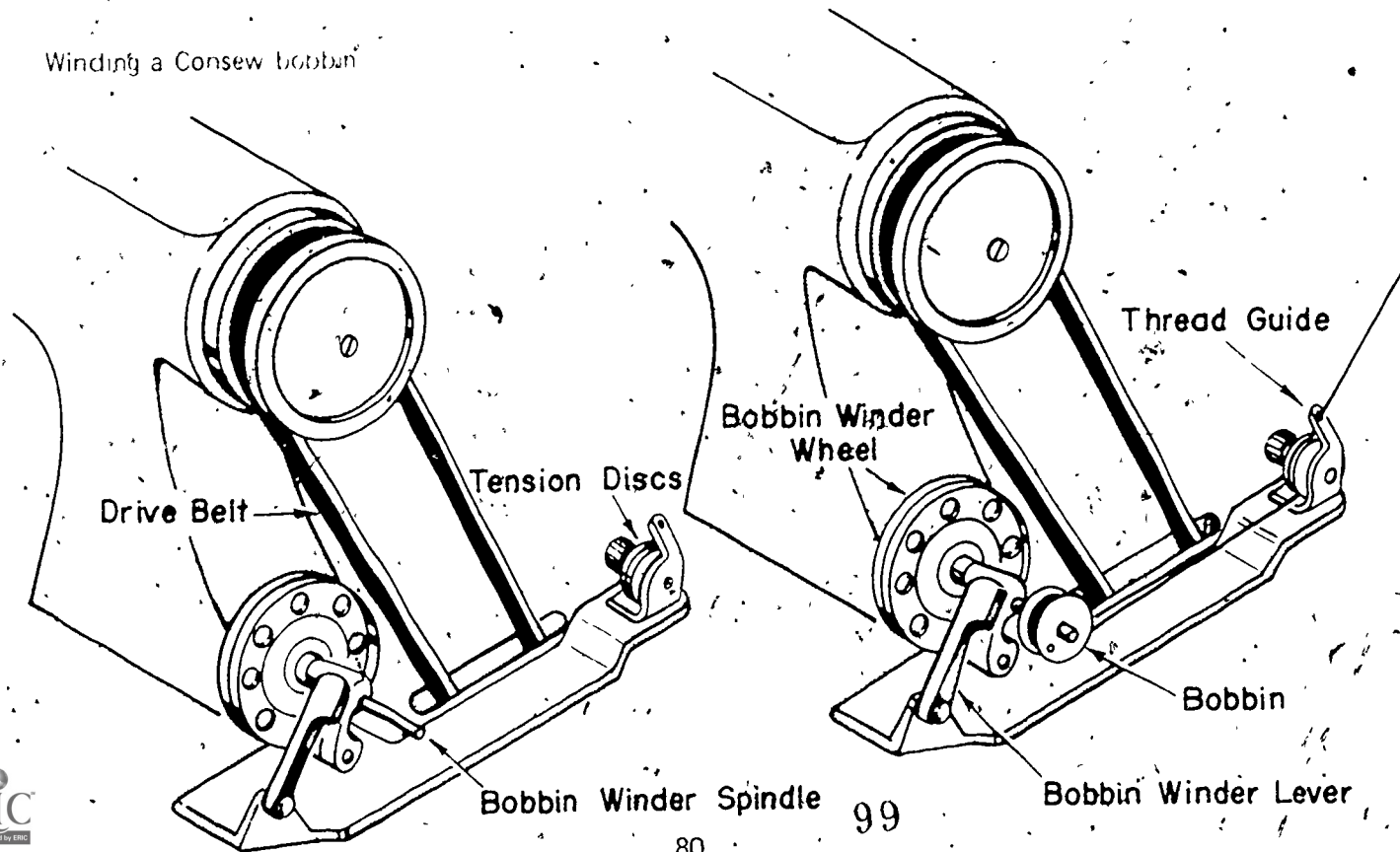
- 1 Slide the bobbin on the bobbin spindle
- 2 Place the thread in the thread guide near the spool holder
- 3 Bring thread under the hook of the thread guide on the tension disc.
- 4 Continue threading around the back and then under the tension discs.
- 5 Place the thread over the bobbin, and wind it a few times around the bobbin.
- 6 Hold the end of the thread while you press down the foot control.
- 7 Let go of the thread end as soon as it starts winding on the bobbin
- 8 Stop winding *before* the bobbin is completely filled
- 9 Remove bobbin, cut thread between bobbin and spool

Winding a Consew bobbin

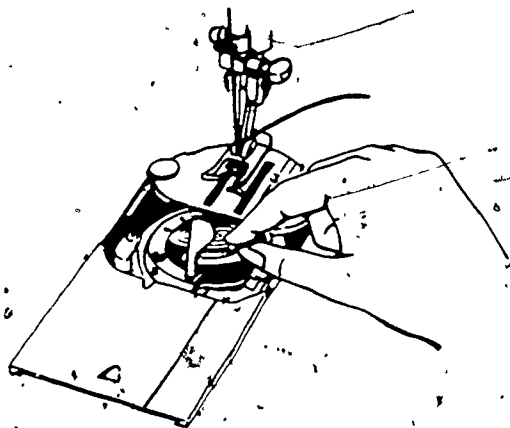


- 1 Thread from spool through overhead spool holder thread guide
2. Continue through thread guide hole in tension disc holder
3. Thread between discs, under and around back of tension discs
4. Wind thread under, then around bobbin several times.
5. Push bobbin winder lever down until the wheel touches the drive belt
6. Press lightly on the speed control and wind bobbin

Winding a Consew bobbin

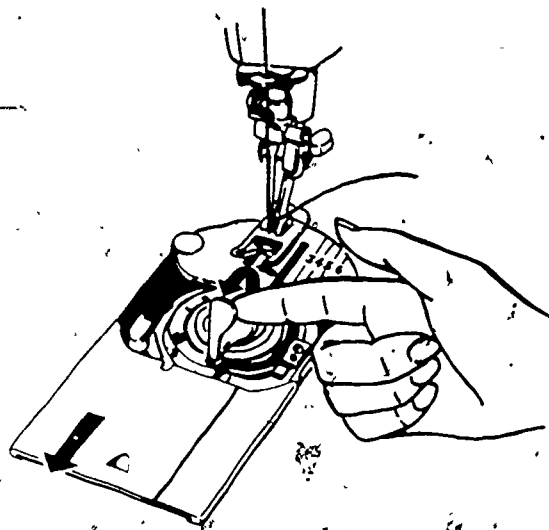


With some machines you cannot sew when you are filling a bobbin. These are usually machines that fill the bobbin in the machine.



Some bobbins can be seen as soon as the slide is moved away.

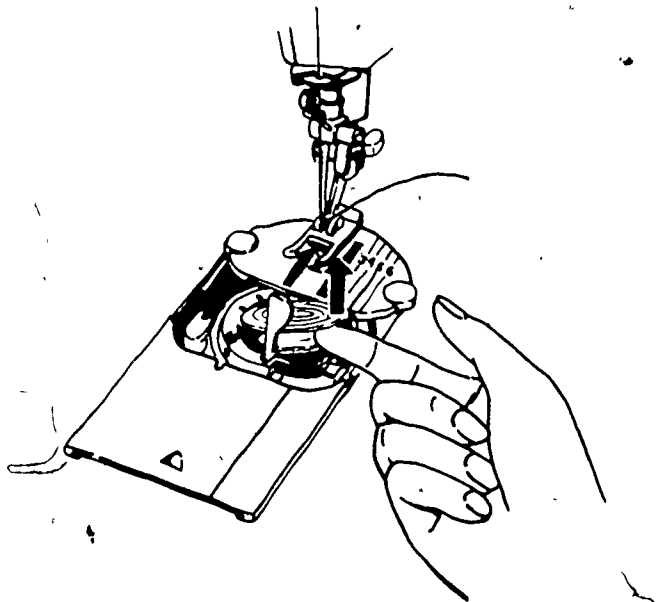
When the bobbin shows, the bobbin can be lifted from the bobbin case.



Sometimes before you can take out the bobbin you must lift a small metal part which holds the bobbin in the bobbin case

This metal part may be called a latch, or a bobbin latch.

If your machine looks like this, lift the latch and take out the bobbin.



83

102

Winding the Bobbin - Singer Golden Touch

- 1 Place your bobbin *on* or *in* the bobbin case
- 2 Thread your machine from the spool through the eye of the needle. Wind the thread around screw on needle bar, and hold onto the thread end
- 3 Press target button toward the side of machine.
- 4 Press control and wind the bobbin about one half full.
- 5 When your bobbin is filled as you want it to be, push your slide plate to close
- 6 Your machine's upper and lower threads are ready for sewing.

Since the bobbin case and bobbin case holder are built into the machine, bobbin winding is easy.

You may be using a sewing machine that will

1. Fill the bobbin inside the machine, but will not sew at this time
2. Wind the bobbin as you sew
3. Stop sewing because of a built-in "stop motion" when winding a bobbin
4. Either sew and fill the bobbin at the same time, or fill the bobbin without sewing action when the "stop motion" control is used.

Which of these would be your machine?

Name of machine _____ number that tells about it _____

Name of machine	Number that tells about it
-----------------	----------------------------

Singer Golden Touch Machine	1
-----------------------------	---

Consew	2
--------	---

Viking	3
--------	---

Other	4
-------	---

or any other number that describes what it does.

Winding the bobbin

If your bobbin is filled or wound by a bobbin winder on the outside of the machine, you have several more things to learn. These are:

1. Parts of the bobbin case
2. How to place bobbin in the bobbin case
3. How to place bobbin case in bobbin case holder
4. How to bring the bobbin thread up to meet the upper thread

Bobbin case parts

Before you try to thread the case, look at it with care. Find these parts

- 1 case a round metal part that will hold the bobbin. Usually it has a small tube that will hold the bobbin in the center of the case. This tube also slides over a metal post in the bobbin case holder.
- 2 tension spring a small metal part that is made separate from the case. It is held in place with screws, and the thread goes under it.
- 3 slot an opening or cut from the edge of the case toward the inner edge of the case.
- 4 eye a small opening through which the thread will pass so it is in the correct position to make a stitch.
- 5 latch the [redacted] that holds the bobbin in the case — and the bobbin case in the bobbin holder.

Can you match names and parts?

bobbin case

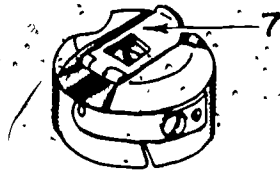
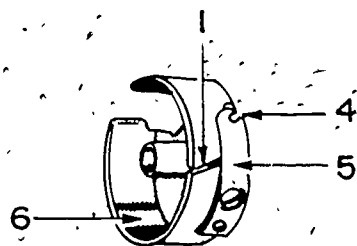
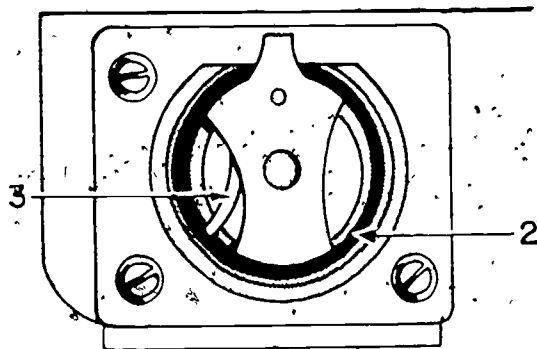
tension spring

slot

latch

bobbin case holder

eye



Can you match names and parts?

bobbin case 6

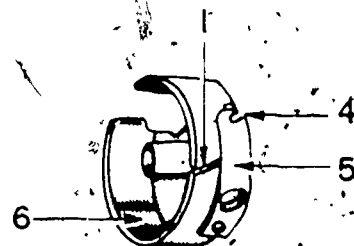
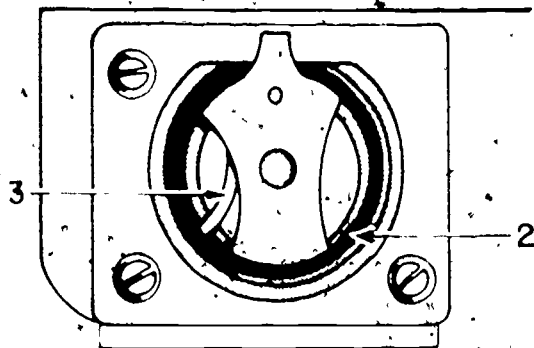
tension spring 5

slot 1

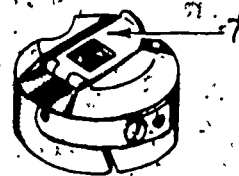
latch 3 and 7

bobbin case holder 2

eye 4



88a



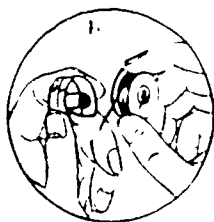
Threading and inserting the bobbin case

You are ready now with an evenly filled bobbin

You have learned about the parts of the bobbin case.

Choose from the directions that are on the next pages for threading and inserting the bobbin case, those that will help you with your machine

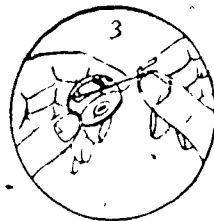
Threading the bobbin case - Consew



1 Place the bobbin in the case



2 Pull the thread into the slot



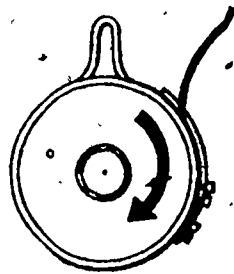
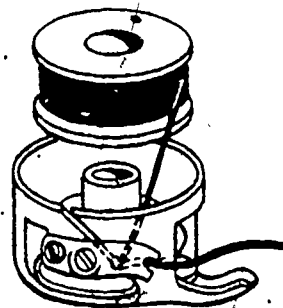
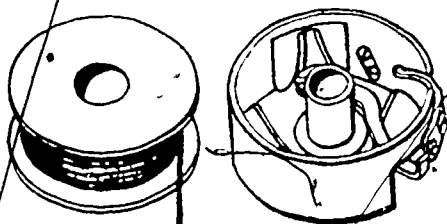
3 Pull the thread under the tension spring and into the eye of the bobbin case.

Inserting the bobbin case Consew

1. Let a thread about the length of a finger hang from the eye of the bobbin case.
2. Hold the latch of the bobbin case open. (This holds the bobbin in the case.)
3. Place the bobbin case on the center post of the bobbin case holder.
4. Let go of the latch.
5. Press the bobbin case on the center post until you hear it "click".
6. Close the slide plate.

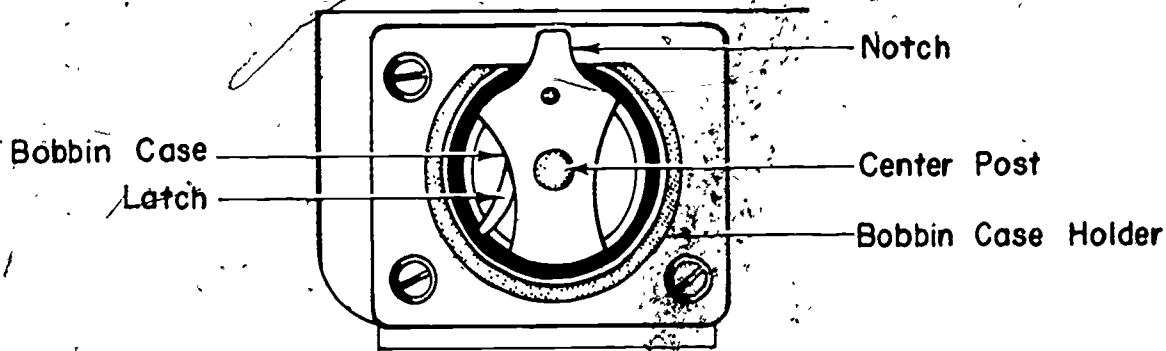
Threading the bobbin case — Viking

- 1 Place the bobbin case as shown
- 2 Pick up the bobbin.
- 3 Place bobbin in the case.
- 4 Pull thread into the slot.
- 5 Continue pulling thread so it goes under the tension spring.
- 6 Pull on the thread, and see that the bobbin moves, as shown by the arrow.



Inserting the bobbin case — Viking

1. Pick up the bobbin case, pinching the latch to hold bobbin in place.
2. Place the bobbin case on the center post of the bobbin case holder.



3. See that the tail of the bobbin case fits into the notch at the top of the bobbin case holder.
4. Release the latch, and press until a "click" is heard.
5. Shut the bobbin case holder door.

SEWING

Your machine is threaded and ready to sew — but you still have some choices to make.

For straight sewing you must decide:

1. How long do you want the stitches to be?
2. What tension will give you an even stitch?
3. What amount of pressure will move your fabric best?

For zig-zag or other stitches, you will have to decide all of the above and these:

4. What kind of stitch do you want?
5. What width stitch do you want?
6. What needle position do you want — left, center, right?

Straight Sewing Stitch Length

Your choices are made as you move parts which may be called dials, controls, regulators, selectors, knobs, regulator screws, or nuts. The length of stitch can be decided most easily by looking at sample stitches you sew.

Take a piece of fabric as long as your hand, and the same width. Fold this so two edges meet. Place your sample under the presser foot and lower the foot.

Look for the dial, control, or regulator that changes the length of your stitch. Each kind of machine may have a different kind of stitch length regulator.

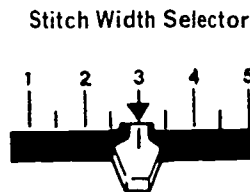
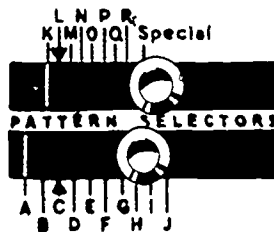
Straight Stitch Selection

If you cannot find these dials, look in your instruction book for *Straight stitching* or *Tips on Straight stitching*. If you still need help after reading and looking at the instruction book, ask your teacher.

If your machine makes other than straight stitches, you must set the stitch selection controls so it is ready to make straight stitches.

With any machine where you choose the stitch to be sewed, you will

1. Raise the needle to its highest point. (Turn your handwheel to do so.)
2. Move the "stitch width" dial to "0".
3. Move "needle position" dial so needle is in center position.
4. With some Viking sewing machines you are now ready to sew a straight stitch. With other Viking sewing machines you must turn the "stitch selector" to the straight stitch setting.



Be sure the buttonhole dial is in the "Off" position. Then press in, and move the stitch selector to "straight stitch" setting. On some machines, for example, you will have a small black arrow showing at your straight stitch setting, your needle position dial, and stitch width dial. Other machines may differ, so check your own machine.

Straight Sewing - Stitch Length

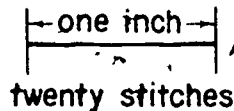
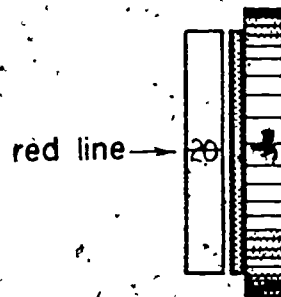
Stitch length regulator - Singer Golden Touch

Some Golden Touch Machines have a stitch control dial that shows the number of straight stitches in one inch of sewing. The higher the number, the smaller the stitch. If you are working at a Singer, move your dial so the number 20 is under the red line. You should sew twenty stitches in one inch of space.

Sew one row of stitches across your sample of material. Change your dial to the next lower number and sew a second row of stitches across the fabric.

Continue changing the dial, and sewing a row each time you change to the next lower number. After you have sewed a row with the dial on 6, you should have eight rows of different lengths of stitches. Do you?

You may have a different stitch-length regulator on your Golden Touch machine. Do the same thing on your machine.



Straight sewing - Stitch length dial - Viking sewing machines

With a Viking sewing machine the stitch length is changed by moving a knob on the stitch length dial: The numbers on the dial are 0 to 4, with lines for divisions between these numbers. Setting 4 gives the longest stitch

Straight Sewing Stitch Length

Stitch length dial - Consew

Change the stitch length dial to the long line between 1 and 2. Sew across your sample.

Change the dial to the next highest number, and sew across the material.

Use the long line between numbers, and then the next number until you have changed the dial and sewed up to "5". Number 5 setting will give the longest stitch — but least number of stitches for each inch of sewing.

When you have sewed with a setting of 5 you should have nine rows of stitches. The stitches should be of different lengths in each row.

Count your rows of stitches.

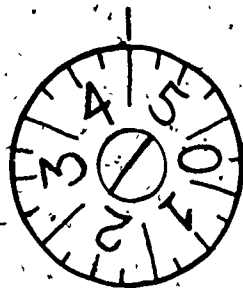
If you are using a Consew the stitch length dial is on the front of the machine. It is numbered from 0 to 5, with long and short lines to show other possible divisions.

The high point just above the dial is the setting place

When "0" is at the highest part of the dial, the feed will not move the fabric, so you get no stitches. Turn to "1" and you will have many small stitches to every inch. Press your speed control — but very lightly, please — and sew across your sample.

- 1 Set your stitch length dial at 4. Sew one row across your sample.
- 2 Change dial to $3\frac{1}{2}$ (a line halfway between 4 and 3). Sew one row.
- 3 Change dial to 3. Sew one row across the sample.
- 4 Change dial to $2\frac{1}{2}$ (a line halfway between 3 and 2). Sew one row.
- 5 Change dial to 2. Sew one row across the sample.
- 6 Change dial to $1\frac{1}{2}$ (a line halfway between 2 and 1). Sew one row.
- 7 Change dial to 1. Sew one row across the sample.

You should have seven rows of stitches, each row with different lengths of stitches.



Straight Stitches Stitch Length

When you have sewed one row of stitches for each division on the dial, remove your sample. Look at your rows of stitches — and decide which number on the dial gave the length of stitch you want to use. Turn your dial to that number or mark, and sew one more row to make sure you have made the right choice.

Whenever you begin to sew, you should check your stitch length setting, and then sew at least one row five or six inches long across a piece of the fabric you plan to sew.

This same row of sample stitches will give you a check on the tension of your upper thread, and whether your pressure on the pressure foot is as it should be.

A good rule is six inches of sample stitches *before* you sew.