

# Serger Badge: Brother 1034D

Age: Grade 9-Adult

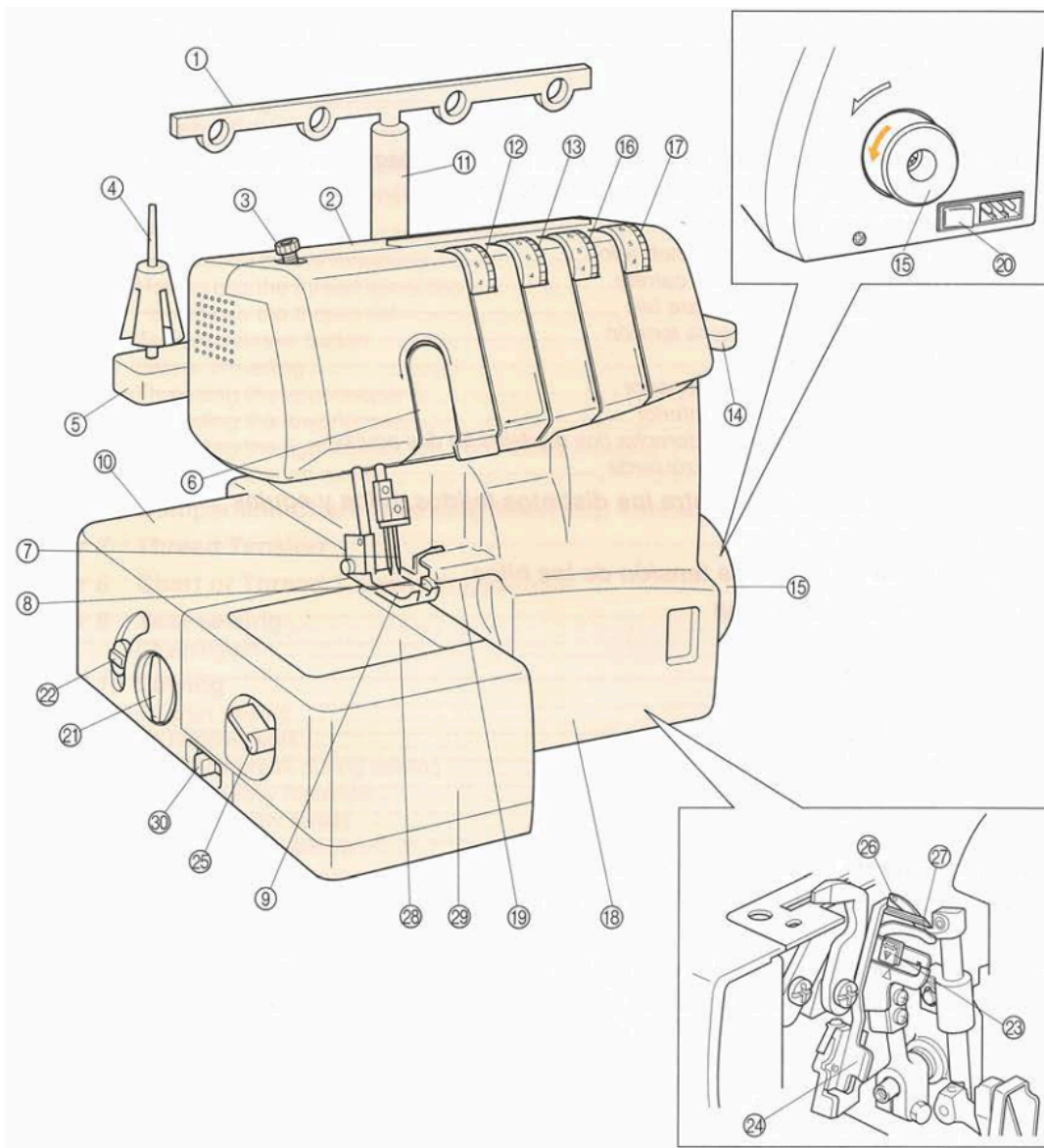
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## LEVEL 1

### Objectives:

- To learn the basic functions of the serger and to be able to thread and sew a four-thread overlock stitch with supervision.
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## 1. Identify parts of machine and their functions



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1. **Thread tree** - Guides thread from spool pins to serger
2. **Handle** - Used to carry serger
3. **Presser foot pressure adjustment screw** - adjusts pressure foot for lighter and heavier fabrics
4. **Spool pin (four)** - hold thread spools
5. **Spool support** - bar attached to back of serger that holds the four spool pins
6. **Thread take-up cover** - Covers the channels through which you thread the right and left needles
7. **Needles** - double or single needle capability for three and four thread serging
8. **Upper knife** - Cuts fabric as you serge
9. **Presser foot** - Keeps fabric in place for smooth serging
10. **Material plate cover** - Platform for fabric to rest on
11. **Spool stand (thread tree support)** - Holds the thread tree up; extends up and down to accommodate various thread spool sizes
12. **Left needle thread tension dial** - adjusts tension for left-hand needle
13. **Right needle thread tension dial** - adjusts tension for right-hand needle
14. **Presser foot lifting lever** - use to lift and lower presser foot
15. **Hand wheel** - allows user to serge by hand; always start new thread with hand wheel; always turn hand wheel towards you
16. **Upperlooper thread tension dial** - adjusts tension for upperloop thread
17. **Lowerlooper thread tension dial** - adjusts tension for lowerloop thread
18. **Front cover** - covers the threading channels and hooks; must be moved to the left before pulling open
19. **Material slide plate (for overlock stitch)** - contains marking for seam allowances
20. **Main power switch and light switch** - on side of machine; plug in pedal and on/off switch
21. **Stitch length adjustment dial** - allows you to change the length of stitches; normal stitch length is 2.5-3 mm
22. **Differential feed ratio adjustment lever** - use this to adjust the front and rear feed dogs for various fabrics
23. **Lowerlooper threading lever** - lever that pulls out for threading the lowerlooper thread (see illustrations on pp. 1, 21)
24. **Stitch finger** - finger-shaped metal piece that sits next to the cutting knife and functions as a meeting point for the threads that move through the serger
25. **Stitch width lever** - level adjusts width of stitches - normal stitch width for overlock is 5 mm
26. **Upperlooper** - hole for upperlooper thread, used as last step for threading upperlooper
27. **Lowerlooper** - hole for lowerlooper thread, used as last step for threading lowerlooper

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28. **Free-arm cover** - can be used without bed extension for hemming cuffs, pant legs, and other small circular clothing/accessories
29. **Bed extension** - can be removed to allow free-arm sewing
30. **Knife lever** - allows user to lock knife in place so that it no longer cuts fabric off; used for finishing edges

## Accessories:

1. **Soft cover** - plastic cover that keeps dust off machine
2. **Accessory bag** - plastic bag with all accessories
3. **Tweezers** - used to thread machine
4. **Thread net (4)** - used to hold thread in place on spools; especially useful for loosely spun thread
5. **Thread spool cap (4)** - used to hold short thread spools in place
6. **Cleaning brush** - used to clean serger before and after each use
7. **Hexagonal (Allen) wrench** - used to remove and replace needles
8. **Needle set** - replacement needles to use in machine
9. **Blind stitch foot** - used for blind stitching, flatlock stitching, and pin tucking
10. **Trim trap** - attach to front of machine to catch fabric trimmed off by knife
11. **Gathering foot** - used for gathering fabric
12. **Thread spool adaptor (not pictured) (4)** - used to secure large thread spools on spool pins

## 2. Safety Guidelines

- Machine use is for customers Grade 9-Adult.
- Use only the attachments, power cord, and accessories that come with machine.
- Never operate machine if the power cord is frayed or damaged in any way.
- Do not drop the machine.
- To disconnect the machine, turn the controls to off and remove plug from outlet (do not pull by the cord).
- Keep your fingers away from all moving parts.
- Always inspect needles to make sure they are straight and unbroken before using
- Always keep fingers far away from upper knife while serging
- Never use straight pins with needles or knife

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- Always turn machine off when adjusting needle and presser foot, or threading the machine.
- Always close front cover before operating the machine
- Move knife lever only when the needle is at its lowest point

## 3. Setting up the machine - Power cord, presser foot, and needles.

- **Power Cord** - Turn power switch to off position ("O"). Insert plug into machine socket and then plug power supply into the wall socket. Turn switch to on position ("1"). Place foot pedal on floor beneath machine.
- **Foot Pedal** - Works like a gas pedal in a car. Press down to go faster; lift up to slow down or stop.
- **The Presser Foot** - To raise or lower, use presser foot lifter on the right side of the machine. Lift to place fabric or remove fabric. Always remember to lower the presser foot before pressing the foot pedal. Choose the correct presser foot for the stitch you are planning to sew.
- **Adjusting the Presser Foot Pressure** - If your fabric is especially heavy or light, you can adjust the presser foot pressure with the pressure adjustment screw on the top of the machine. When sewing very light materials, the presser foot pressure should be loosened (turn counterclockwise). When sewing heavy materials, the presser foot pressure should be tightened (turn clockwise). See p. 38 in manual for more information and diagrams.
- **To change the presser foot:**
  1. Turn off the power switch and/or unplug the machine.
  2. Raise the presser foot level.
  3. Set the needle to its highest position by turning the handwheel counter clockwise (see arrow on side of machine)
  4. Push the button on the presser foot holder and the standard foot will be released.
  5. Raise the presser foot farther by pushing the presser foot lever upward. Remove presser foot and store it in a safe location.
  6. Again, raise the presser foot farther by pushing the presser foot lever upward. Then place your new presser foot (blind stitch presser foot, gathering presser foot, multipurpose foot, etc) just under the presser foot holder so that the groove in the bottom of the presser foot holder is aligned and catches the bar on the top of the presser foot. Then lower the presser foot lever and press button on presser foot holder to attach the new foot. (see p. 47 in manual for diagram)

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- **The Needle** - Choose the needle based on the type of fabric you are using. The standard needle will be size 130/705H, size 90 (blue) (see Charts on pp. 25-26 in the manual to choose the correct size needle for the material and stitch you want to use). If using two needles, make sure they are the same size.
- **To change the needle (see pp. 5-6 in manual for diagrams)**

## Removing the needle(s):

1. Turn the main power switch to the OFF position
2. Turn the hand wheel counter-clockwise by hand until the needle is in the highest position
3. Loosen the needle set screw with hexagonal wrench (counter-clockwise) and remove the needle(s)
4. Flat side faces back of machine; curved side faces front of machine

## Inserting the needle(s):

1. Turn the main power switch to the OFF position
2. Turn the hand wheel counter-clockwise by hand until the needle is in the highest position
3. Hold needle with flat side facing the machine and insert it as far as it will go.
4. Tighten the needle set screw securely (clockwise) with the hexagonal wrench.

## Notes on needles:

1. If replacing both needles, hold the two needles with one hand and insert them both at the same time.
2. If needles are inserted correctly, the right needle will be set slightly lower than the left one.
3. The needle set screw holds both needles so both will come out when you loosen the screw.
4. To check needle to see if it's bent, place flat side of needle onto flat surface and check that the gap between needle and surface is consistent along the whole length of the needle.
5. If needle is bent or broken, discard and put new needle in machine.
6. Never use a blunt needle.

## 4. Threading the machine (see illustrations on pp. 14-24 in manual)

- **Preparation before threading:**

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1. Turn off the main power switch.
2. Raise the presser foot using the presser foot lever.
3. Set the needle to its highest position, using the handwheel.
4. Raise the telescoping thread tree to its highest position and make sure the thread holders are in alignment above the spool pins.
5. When using sewing thread spools, use thread spool caps. Make sure the spool notch is facing down toward the thread spool

- **Threading sequence:**

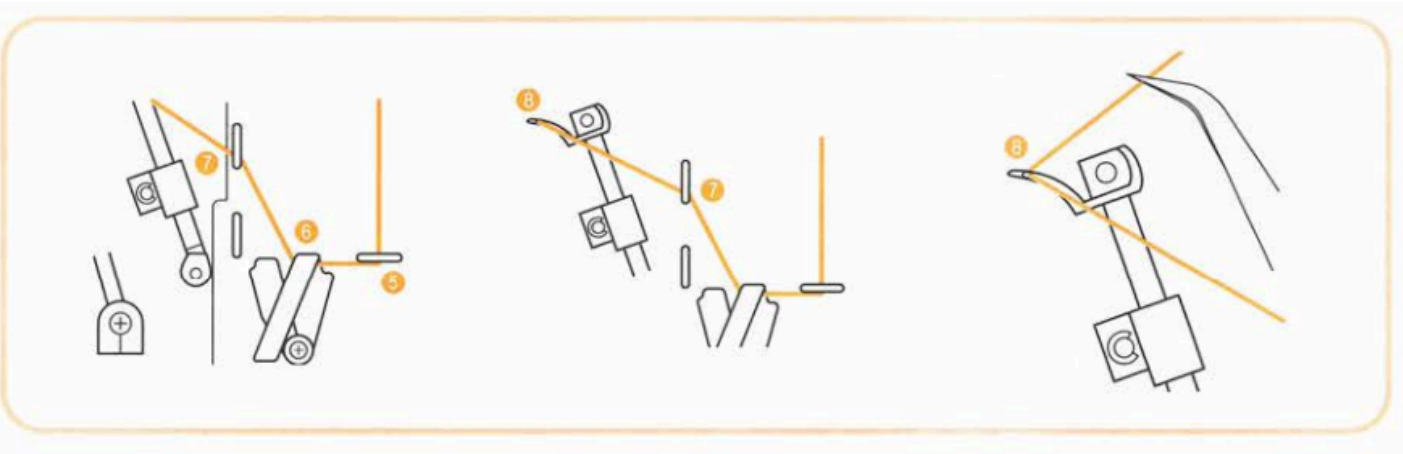
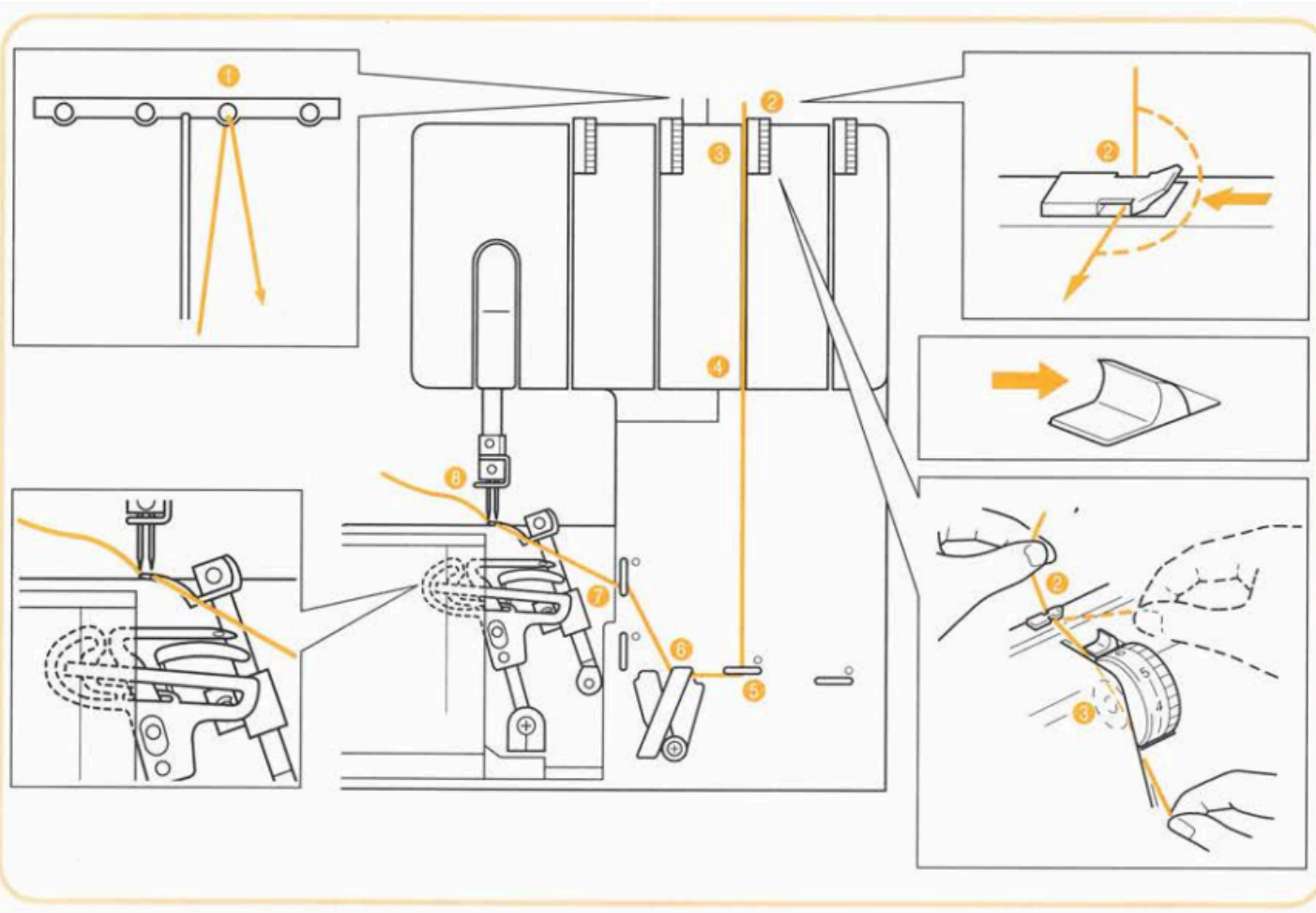
Always thread the serger in the following order--upperlooper, lowerlooper, right needle, left needle.

- **Threading the upperlooper (green):**

1. Open the front cover by sliding to the right and opening toward you.
2. Pull the thread from the spool and up through the hole on the thread guide on the thread tree above the spool from back to front.
3. Pull thread about an extra six (6) inches through the front of the hole.
4. Pass thread through proper thread guide at top of machine (green).
5. Slide and hold thread tension release button to the right, then pass thread through tension disc in the channel next to the green tension adjustment dial. Then release the button.
6. Guide the thread down the channel and pass thread through the green threading points 5-8 (see pp. 17-18 in manual for illustrations of threading points).

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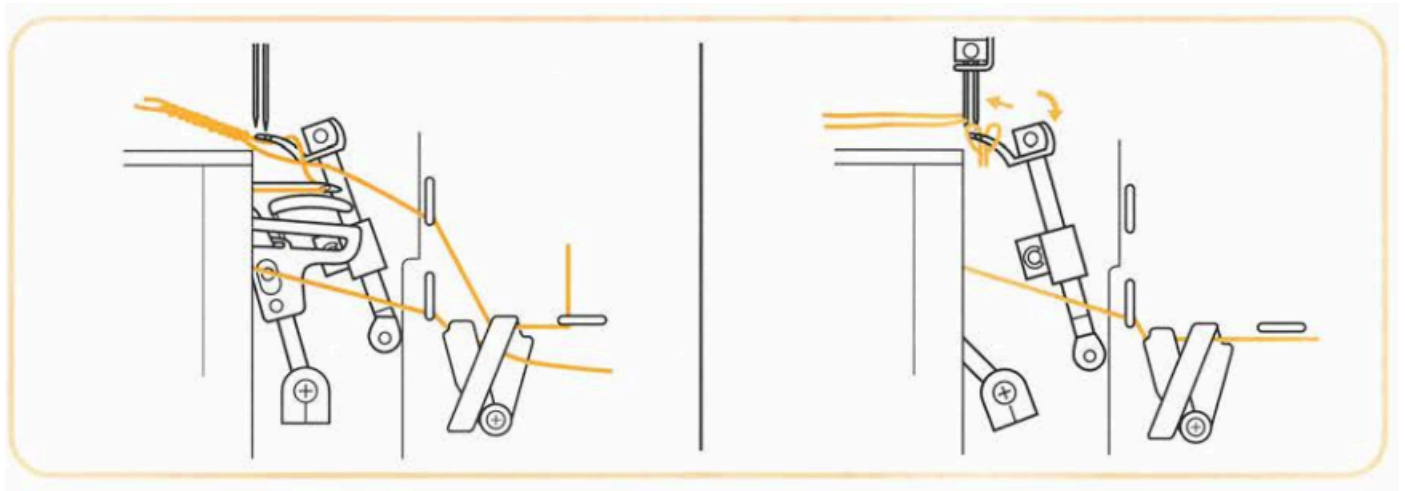




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[diagram from pp. 17-18]

- **Threading the lowerlooper (blue):**

1. Open the front cover by sliding to the right and opening toward you.
2. Pull the thread from the spool and up through the hole on the thread guide on the thread tree above the spool from back to front.
3. Pull thread about an extra six (6) inches through the front of the hole.
4. Pass thread through proper thread guide at top of machine (blue).
5. Slide and hold thread tension release button to the right, then pass thread through tension disc in the channel next to the blue tension adjustment dial. Then release the button.
6. Guide the thread down the channel and pass thread through the blue threading points 5-12(see pp. 19-21 in manual for illustrations of threading points).
7. For threading the lowerlooper threading lever (threading points 9-12; see p. 21 in manual for illustration)
  - a. Slide the lowerlooper threading lever to the right
  - b. Position the thread under the hook (left end of the threading lever)
  - c. Place the thread through the eye of the lowerlooper
  - d. Holding the end of the thread, slide the lowerlooper threading lever to the left (back into the machine) to its standard position
  - e. Make sure the blue triangular marks line up.

[Insert diagrams from pp.19-21 here]



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- **Threading the right needle (pink):**

1. Open the front cover by sliding to the right and opening toward you.
2. Pull the thread from the spool and up through the hole on the thread guide on the thread tree above the spool from back to front.
3. Pull thread about an extra six (6) inches through the front of the hole.
4. Pass thread through proper thread guide at top of machine (pink).
5. Slide and hold thread tension release button to the right, then pass thread through tension disc in the channel next to the pink tension adjustment dial. Then release the button.
6. Guide the thread down the channel and pass thread through the pink threading points 5-7 (see p. 22 in manual for illustrations of threading points).
7. Put thread through the eye of the right hand needle and pull to the back.

**[Insert diagram from p. 22 here]**

- **Threading the left needle (yellow):**

1. Open the front cover by sliding to the right and opening toward you.
2. Pull the thread from the spool and up through the hole on the thread guide on the thread tree above the spool from back to front.
3. Pull thread about an extra six (6) inches through the front of the hole.
4. Pass thread through proper thread guide at top of machine (yellow).
5. Slide and hold thread tension release button to the right, then pass thread through tension disc in the channel next to the yellow tension adjustment dial. Then release the button.
6. Guide the thread down the channel and pass thread through the yellow threading points 5-7 (see p. 24 in manual for illustrations of threading points).
7. Put thread through the eye of the left hand needle and pull to the back.

**[Insert diagram from p. 24 here]**

## 5. Setting thread tension, differential feed, stitch length, stitch width, and stitch type

- **Thread tension:**

1. From left to right:

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- a. Yellow tension dial - left needle
  - b. Pink tension dial - right needle
  - c. Green tension dial - upperlooper
  - d. Blue tension dial - lowerlooper
2. Dial up to decrease tension
  3. Dial down to increase tension
  4. Tension settings
    - a. Heavy tension: 4-7
    - b. Medium tension: 5-3
    - c. Light tension: 4-2
  5. For tension adjustments, see pp. 29-32 in manual
- **Differential feed**
    1. For most fabrics, set the differential feed at 1 (normal setting)
    2. If lightweight fabric is puckering, move differential feed dial back to set it at less than 1
    3. For stretch fabrics, to prevent rippling, move differential feed dial forward to more than 1
    4. The more elastic the material, the further toward 2.0 the differential feed dial should be set.
    5. When sewing thick non-stretchable material such as denim, do NOT use the differential feed as it may damage the fabric
    6. See chart on p. 12 in manual for further reference
  - **Stitch length**
    1. Normal stitch length is 2.5mm to 3 mm.
    2. Turn stitch length dial forward to lengthen stitch (maximum of 4 mm [5/32 inch])
    3. Turn stitch length dial backward to shorten stitch (minimum of 2 mm [1/8 inch])
  - **Stitch width**
    1. Normal stitch width for regular overlock stitch is 5 mm [13/64 inch].
    2. To change stitch width: move stitch width lever up to reduce the width or down to increase the width.
  - **Stitch type**

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1. Four-thread overlock - use all four threads and two needles - for sewing knits and woven fabrics
2. Three-thread overlock - use three threads and the left needle, producing 5 mm seams. For all kinds of material.
3. Three-thread overlock - use three threads and right needle, producing 2.8 mm seams.
4. Narrow/rolled hemming stitches - use as decorative or finishing stitch.
5. See p. 41 in manual for illustrations of each stitch.

## 6. Sewing and Finishing

### ● Preparing to sew

1. Before sewing, ask a staff member if it has been oiled.
2. After threading, run a two-inch chain before testing on your scrap fabric.
3. Check tension, stitch width, stitch length, and differential feed dials to make sure they are set appropriately for your serging project.
4. Lift the presser foot and put a piece of scrap fabric underneath
5. Drop the presser foot onto the fabric
6. Holding the needle threads with your left hand, turn the hand wheel slowly in a counter-clockwise direction with your right hand. Check to see that threads are entwining properly before using the foot pedal to sew.
7. After finishing your test piece, chain off four (4) inches before cutting off the test piece.
8. Check that the thread chain is even. If it is uneven, check your tension and threading.

### ● Sewing

1. Thread machine and pull thread out six (6) inches behind presser foot.
2. Lift presser foot and put material well under the foot before sewing.
3. Slowly sew the first few stitches, using the handwheel.
4. Guide the fabric and allow the machine to feed the material through.
5. Check the stitch formation to see if it's uniform. If it is not, stop and recheck the threading.
6. Follow the seam allowance guide (this has markings for  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$  and 1 inch seam allowances)

### ● Finishing

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1. When seam is finished, chain off several inches.
2. Cut the stitches two (2) inches from your work, leaving at least three inches of chain in the machine.

## 7. Cleaning the machine

1. Using the brush included in the accessory bag, brush out any lint you find inside the machine.
2. Do not use canned air to clean.

## 8. Properly disconnect and store the machine after use.

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## LEVEL 2

### **Objectives:**

- *To thread and sew a four-thread overlock stitch without supervision, sew with three threads, and troubleshoot.*
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### **1. Thread the serger with no help.**

### **2. Sew a four-thread overlock seam with no help.**

### **3. Sewing with three threads**

- A. Rolled hem - used to finish edges of medium to light fabrics
  1. Remove left needle
  2. Change thread, if necessary, to match fabric
  3. Thread machine for a three thread overlock, using the right needle
  4. Remove the stitch finger (see diagram on p. 43 in manual)
    - a) Raise presser foot lever
    - b) Pull all threads toward back of machine
    - c) Make sure no thread is wrapped around stitch finger
    - d) Open front cover
    - e) Turn hand wheel until upperlooper is at its lowest position
    - f) Press the stitch finger release button to remove the stitch finger
    - g) Store the stitch finger in slot on the inside of the front cover (see diagram on p. 43 in manual)
  5. Adjust stitch width for rolled hemming - move stitch width lever to "R"
  6. Adjust stitch length - move stitch length lever to "R"
  7. Set tension dials - Lowerlooper tension should be tightened more than upperlooper tension to "roll" the hem.
    - a) Upperlooper thread tension: 1-4
    - b) Lowerlooper thread tension: 5-7
    - c) Right needle thread tension: 4
    - d) Upperlooper and lowerlooper tensions will vary depending on material.
  8. Put your material under your presser foot, start the first few stitches with the hand wheel, then serge your rolled hem.
  9. Reminder: Replace stitch finger: push lever, match yellow arrows, and push to left into the slot until secure, then release lever.

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10. Return the second needle to its place and return all dials to their original settings after finishing serging.
- B. Finished edge - a decorative finished edge
1. Remove left needle
  2. Change thread, if necessary, to match fabric
  3. Thread machine for a three thread overlock, using the right needle
  4. Remove the stitch finger (see diagram on p. 43 in manual)
    - a) Raise presser foot lever
    - b) Pull all threads toward back of machine
    - c) Make sure no thread is wrapped around stitch finger
    - d) Open front cover
    - e) Turn hand wheel until upperlooper is at its lowest position
    - f) Press the stitch finger release button to remove the stitch finger
    - g) Store the stitch finger in slot on the inside of the front cover (see diagram on p. 43 in manual)
  5. Adjust stitch width for rolled hemming - move stitch width lever to "R"
  6. Adjust stitch length - move stitch length lever to "R"
  7. Set tension dials to same tension. 4 is normal but may be slightly higher or lower, depending on material
  8. Put your material under your presser foot, start the first few stitches with the hand wheel, then serge your decorative edge.
  9. Reminder: Replace stitch finger: push lever, match yellow arrows, and push to left into the slot until secure, then release lever.
  10. Return the second needle to its place and return all dials to their original settings after finishing serging.

## 4. Miscellaneous

- C. Sewing with pins - make sure to remove pins before they reach the metal plate so you do not hit the knife accidentally.
- D. Finishing edge with upper knife locked - for finishing an edge without cutting fabric off
  1. Move needle to its lowest position
  2. Move the knife lever to the left to lock the upper knife in place.
  3. Top part of the knife will stick up above the needle plate - use this to guide your fabric.
  4. Adjust the stitch width lever to move the upper knife to the desired guide position
- E. Installing and removing trap (optional)

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1. Install - place trim trap against front cover until it sits flush against machine
2. Remove - slightly lift serger and pull out trim trap away from machine

## 5. Troubleshooting

- F. Does not feed - Presser foot pressure too loose - turn pressure adjustment screw on top of machine clockwise to increase pressure
- G. Needles break
  1. Bent or blunt needles - replace needles
  2. Needles incorrectly installed - remove and reinstall
  3. Material pulled forcibly - gently guide material and let machine pull material through
- H. Threads break
  1. Improper threading - Rethread machine correctly
  2. Thread tangled - Check spool pin, thread holders, and remove tangled thread.
  3. Thread tension too tight - Adjust tension dials to match fabric (see pp. 27-32 in manual)
  4. Needles incorrectly installed - remove and reinstall
  5. Wrong needle used - Use correct size needle
- I. Skipped stitches
  1. Needle bent or blunt - replace needle
  2. Needles incorrectly installed - remove and reinstall
  3. Wrong needle used - Use correct size needle
  4. Improper threading - Rethread machine correctly
  5. Presser foot pressure too loose - Turn pressure adjustment screw clockwise to increase pressure
- J. Stitches are not uniform - Thread tensions are not adjusted properly - See Thread Tension charts on pp. 27-32 in manual
- K. Fabric is puckered
  1. Thread tension is too tight - Decrease thread tension when sewing light-weight or fine material. Adjust differential feed setting when sewing stretchy knits.
  2. Improper threading or tangled thread - Rethread machine correctly and remove tangles.
  3. Check to make sure cutting knives are still sharp.
- L. When thread breaks



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1. If upperlooper thread breaks, it may be caused by the lowerlooper thread getting caught on the upperlooper. Lower upperlooper using the hand wheel, remove the lowerlooper thread from the upperlooper, and re-thread the upperlooper thread.
2. If lowerlooper thread breaks, cut and remove thread from both needles before re-threading lowerlooper thread. Then re-thread both needle threads.
3. After re-threading, replace the material under the presser foot and sew 3-5 cm (1  $\frac{1}{8}$  -2 inches) over the previous stitches.

**6. Properly disconnect and store the machine after use.**