

Handout 5.10: Machine Parts and Threading Guide

Name: _____ Date: _____ Period: _____ **My machine number:**
My threading buddy: _____

Directions: Part 1 is the parts diagram; label the seven parts. Part 2 is the four machine safety rules, the close-down routine, and the broken needle rule; copy them and sign. Part 3 is the threading steps and the threading license. Part 4 is the paper practice record. Part 5 is the blanket stitch step card (hand station and no-machine path). Your machine number is yours for the whole unit: same student, same machine, every day.

One sentence before anything else: a machine does the same stitch your hands do, faster, and it does not know your finger is there.

Word bank in other languages

[Check with a native speaker before printing.]

English	Turkish	Portuguese	Spanish
sewing machine	dikiş makinesi	máquina de costura	máquina de coser
needle	iğne	agulha	aguja
presser foot	baskı ayağı	calcador	prensatelas
feed dogs	dişli (transport dişlisi)	dentes impelentes	dientes de arrastre
bobbin	mekik (alt masura)	bobina (carretilha)	bobina (canilla)
take-up lever	iplik verici kol	alavanca da linha	palanca del hilo
hand wheel	el çarkı	volante	volante
foot pedal	pedal	pedal	pedal
unplug	fişini çekmek	desligar da tomada	desenchufar
blanket stitch	battaniye dikişi	ponto caseado	punto de festón

Part 1: The seven parts

Image described in words for the diagram: a side-front view of a basic sewing machine sitting on a table. The machine has an upright arm on the left rising to a top bar that reaches right, then bends down into a head. Seven parts are numbered with lines pointing to them. 1 points to the thin needle at the bottom of the head. 2 points to the small metal foot just behind the needle, resting on the flat bed. 3 points to two short rows of tiny metal teeth in the flat bed, directly under the foot. 4 points to a small round spool in a case under a sliding plate in the bed, just left of the needle. 5 points to a slotted metal arm at the top left of the head. 6 points to a large wheel on the right end of the machine body. 7 points to a shoe-shaped pedal on the floor with a cord running to the machine. A separate small drawing shows the cord taped flat to the table and the floor.

Label each number and write what it does.

Number	Part name	What it does
1		
2		
3		
4		
5		
6		
7		

Which part is the most dangerous, and why?



Which part surprises you, and why?



Part 2: The four machine safety rules

Copy them.









Plus the habit that is not a rule: turn the _____ toward you to see what a stitch does before you touch the pedal.

The close-down routine, every machine day, no exceptions:

1. Presser foot _____ (down).
2. Power _____ (off).
3. Chair _____ (in).

The broken needle rule: a broken needle is _____ and _____ to the teacher, both pieces, flat on an open palm. It is never thrown in the trash and never left on the floor.

The machine doctor tag: if your machine jams or acts wrong: tag it, tell the teacher, move to a spare machine or the hand station, keep working. Reporting a problem is what a professional does.

Machine rules agreement

I know the four machine safety rules. I know where my hands go and where they never go. I know to switch off or unplug before I change a needle or reach under the plate. I know the close-down routine and I will run it every machine day. I know the broken needle rule. I know what the machine doctor tag is for.

Signed: _____ Date: _____

Part 3: Threading, step by step

Every machine is a little different. The manual at your machine is the authority, not the teacher.

Threading the top

Step 1. Put the spool on the spool pin. Picture: a thread spool pushed down onto a short upright pin on top of the machine.

Step 2. Pull the thread through the first guide. Picture: thread running from the spool to the right, through a small metal hook near the top.

Step 3. Bring the thread down and around the tension dial. Picture: thread running down the left face of the machine, looping around a numbered dial, and back up.

Step 4. Bring the thread up and through the take-up lever, back to front. Picture: thread going up into a slotted metal arm and out through the hole at its end.

Step 5. Bring the thread down through the lower guides. Picture: thread running down past two small hooks toward the needle.

Step 6. Thread the needle, front to back. Picture: thread going through the needle's eye from the front side of the machine toward the back, with about four inches hanging out.

The bobbin

Step 7. Take a wound bobbin, or wind one. Picture: a small spool of thread held in the fingers.

Step 8. Open the plate and drop the bobbin in the case the way the arrow shows.

Picture: a sliding plate open in the machine bed, a bobbin sitting in a round case, and a small printed arrow showing which way the thread unwinds.

Step 9. Pull the bobbin thread through the slot. Picture: bobbin thread pulled sideways into a narrow groove in the case.

Step 10. Close the plate. Picture: the sliding plate closed flat over the bobbin area.

Step 11. Hold the top thread and turn the hand wheel one full turn toward you.

Picture: one hand holding the top thread lightly, the other turning the big wheel toward the front, and a small loop of bobbin thread appearing through the hole in the plate.

Step 12. Pull the loop up and lay both threads back under the presser foot. Picture: two threads, top and bobbin, pulled back behind the needle and lying under and behind the foot.

The threading license

Thread the top and load the bobbin at your own machine while your buddy checks every step against this guide. When every step matches, your buddy initials. Then the teacher checks the tension and the bobbin drop and initials. Two initials is a license: from then on you sit at a machine you threaded yourself.

Buddy check, every step matched: _____ (buddy initials) Teacher check: _____ (teacher initials)

Part 4: Paper practice record

No thread in the machine. The needle punches holes in the paper, and the holes show exactly how straight your line was. Hold the finished sheet up to the light.

The three drill sheets (teacher prints one set per student): Sheet 1, described for printing: a portrait page with three straight lines down the page, each a quarter inch thick and nine inches long, with a START dot at the top of each. Sheet 2: one large S curve from the top of the page to the bottom, a quarter inch thick, with a START dot. Sheet 3: a six inch square drawn in a quarter inch line, START dot at one corner, an arrow showing the direction, and at each corner the words NEEDLE DOWN, FOOT UP, PIVOT, FOOT DOWN.

The line	Did my holes stay on the line? (1 to 3)	What made it hard
The straight line		
The curve		

The square (pivot at each corner)		
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With thread, on scrap:

The check	Yes	Not yet
Hands stayed to the sides of the needle	☐	☐
One foot on the pedal, the other flat on the floor	☐	☐
Pulled every pin out before it reached the foot	☐	☐
Seam is about a quarter inch from the edge	☐	☐
Backstitched three or four stitches at the start and the end	☐	☐

One sentence: what does a machine give you that your hands do not, and what does it take away?

Part 5: The blanket stitch (no-machine path)

What it is for: it finishes a raw edge so it cannot fray, and it decorates at the same time. It is the stitch for felt edges, blanket edges, and appliqué. A machine cannot do it the way a hand can.

Step 1. Knot your thread and come up a quarter inch in from the edge. Picture: a needle coming up through felt a quarter inch from the edge, with the knot underneath.

Step 2. Bring the needle around and over the edge. Picture: an arrow looping the thread over the top of the edge from back to front.

Step 3. Go back in a quarter inch along, and a quarter inch in from the edge. Do not pull it tight yet. Picture: the needle entering the felt a quarter inch further along the edge, with thread still loose.

Step 4. Before you pull, pass the needle through the loop of thread lying along the edge. This is the step that makes it a blanket stitch instead of a whipstitch. Picture: the needle tip passing under a loop of thread that runs along the very edge of the felt.

Step 5. Pull snug. The thread now lies along the edge with a little bar going over it, like a capital L on its side. Picture: a finished blanket stitch: a line of thread running along the edge with evenly spaced bars standing up from it into the fabric.

Step 6. Repeat, keeping the spacing even. Picture: six or seven blanket stitches marching along an edge, all the same width apart.

Step 7. At a corner, take two or three stitches into the same corner hole and fan them. Picture: three stitches radiating out from one hole at a corner of the felt, like a small fan.

Step 8. Finish off. Three tiny stitches in one place, then a knot, then trim. Picture: snips cutting a thread tail close to a finished blanket-stitched edge.

Second item, your choice:

Option	What it is	The steps
Felt bookmark	One piece of felt, two by seven inches, blanket stitched all the way around the edge, with your name or initial added in backstitch	Blanket stitch the edge, then backstitch the letters
Pin cushion	Two felt squares, four by four inches, blanket stitched on three sides, stuffed, then closed on the fourth side	Blanket stitch three sides, stuff firmly but not to bursting, blanket stitch or whipstitch the fourth side, finish off

My item: _____ bookmark _____ pin cushion



Self-check: even spacing 1 2 3 thread passed through the loop every time 1 2 3 corners
fanned 1 2 3

Teacher key

Part 1, the seven parts.

Number	Part	What it does
1	Needle	Goes up and down through the fabric, carrying the top thread. It does not know what is under it
2	Presser foot	Holds the fabric down flat so the feed dogs can move it
3	Feed dogs	The small metal teeth in the bed that pull the fabric through. This is why you guide the fabric and never push it
4	Bobbin	The bottom thread, in a case under the needle plate. Every machine stitch is two threads locking together, top and bobbin
5	Take-up lever	The slotted arm at the top that the top thread passes through; it pulls slack up on every stitch
6	Hand wheel	Turns the needle by hand, one stitch at a time. Always turn it toward you
7	Foot pedal	The gas. It controls speed

Most dangerous: the needle, because it moves fast and it will go through a finger; and the pedal, because the pedal is what makes the needle move while a hand is in the wrong place. Both answers are right and the pedal answer is the better one.

Part 2, the four machine safety rules.

1. Both hands stay to the sides of the needle, never in front of it. Hands guide, they do not push.
2. One foot on the pedal, the other foot flat on the floor, not tucked under you.
3. Switch off or unplug before you change a needle or reach under the needle plate.
4. Hair back, sleeves clear, cords taped down, nothing loose near the wheel.

The habit: turn the hand wheel toward you.

Part 4. What a machine gives: speed, a stronger and more even stitch, and the ability to make something in a class period instead of a week. What it takes away: control over every single stitch, the ability to work anywhere with no power, the quiet, and the forgiveness of a hand stitch you can pick out in ten seconds. It also takes away your margin for error around your own hands.

Part 5. The failure to watch for is skipping Step 4: pulling before passing the needle through the loop produces a whipstitch, which looks similar at a glance and does not lie along the edge. Check by looking at the very edge; a blanket stitch has a continuous line of thread running along it.

Note for the no-machine path. Parts 1, 2, and 3 of this handout are still taught, from the diagram and the slides, with no machine in the room. Machine equipment identification is on the state's list (NYS ATPD 2. Production a) names hand and machine sewing together), and students will meet a machine in high school or at a job. Say plainly what the class is not doing: no student on this path has demonstrated machine technique, and the website's standards map says so.

Reduced-dexterity version. Machine path: sew with the hand wheel only, one stitch at a time, which is a real technique and removes the foot coordination. No-machine path: the blanket stitch on binca or plastic canvas with a large plastic needle and yarn, where the holes already exist and the loop is easy to see.

Standards checked by this handout: NYS ATPD 2. Production a) and b); CTE HSW 4. Classroom and Workplace Safety c) and i); NYS FACS Standard 2 (Intermediate) PI C; CDOS 3a Technology; National FCS 3.0 16.4.1. The equipment-teaching design draws on the ATPD module's own Communication and Interpersonal Relationships illustrative activity, in which students teach the class about one piece of sewing equipment.