

# Tool Tutorial

Link to PDF Tool Tutorial: [Letter size serger.pdf](#)

Link to PDF Tool Poster: [Sergers poster 2025.pdf](#)

A serger can bind the edge of fabric while sewing the seam. This machine can be used with three threads, resulting in a “Merrow” which works well on knits and finishing raw edges, or with the second needle, which adds a chain-stitched seam as a durable seam next to the bound edges. Several widths of stitches are possible.

## Warnings

- ⚠ 1. Power off the machine before threading or handling the needles.
- ⚠ 2. Do not force material while stitching.
- ⚠ 3. Keep hair, loose clothing, and fingers away from all moving parts!

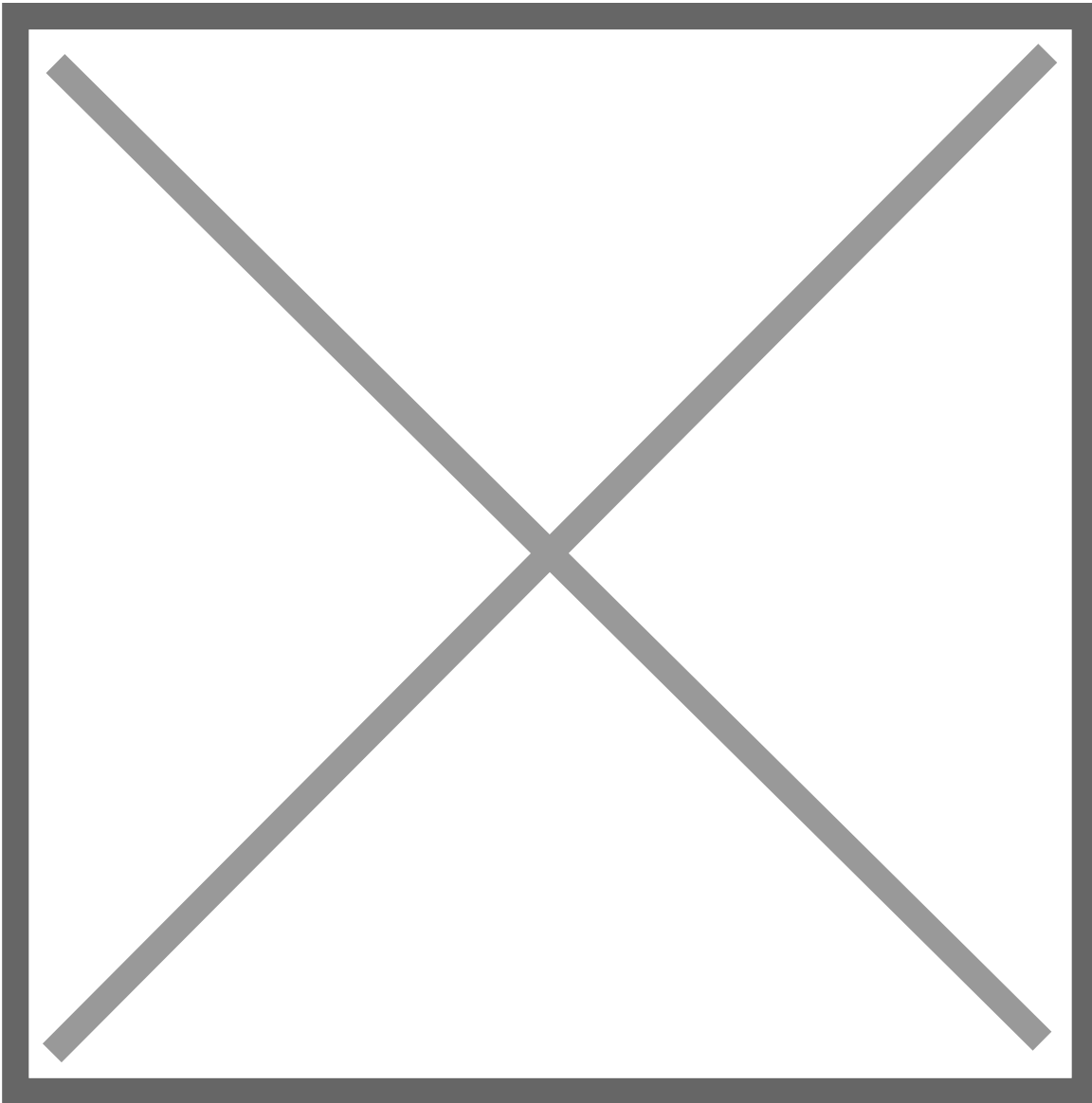
See the Tool Safety section for more information.

## Machine Overview

### OVERVIEW

1. Power On/Off
2. Presser Foot Lift pedal
3. Operation Pedal
4. Thread holders
5. Table latch (below)
6. Tensioners
7. Finger shield
8. Needle(s)
9. Oil level indicator
10. Maintenance Tag - Manually tracks the usability status with Green/Yellow/Red cards

## ALL DOORS OPEN - OVERVIEW OF INSIDE



1. Thread guide bar - all threads
2. Tensions for looper threads
3. Tensions for needle threads
4. Looper thread guides
5. Threading door with diagram
6. Needle thread guides
7. Stitch size selector
8. Access to looper threads
9. Door latch

## Tool Safety

### COMMON HAZARDS

The most common hazards are thread jams and broken needles. Watch for binds and jams, stop immediately if they occur. Avoid pulling/pushing fabric, which may misalign and break the needle.

**The most significant hazard is injury.** Always power off and run the machine until the motor drains before handling, adjusting, or threading.

- △ Keep fingers 3" away from the needle
- △ Tie back hair and scarves
- △ Roll sleeves behind elbows
- △ Power off and drain the motor before:
  - \* Threading
  - \* Replacing needles
  - \* Removing jams

## Pin Safety

The Serger will not “step over” pins in the fabric. Hitting one will damage the knife that cuts the fabric while sewing.

- Baste using a consumer machine with a large stitch, or by hand, so that pins aren't needed on the serger.
- Use mini-clips, removing them as they get closer to the needle. You may need to stop the machine occasionally or sew slowly.
- Instead of typical pin placement perpendicular to the seam, pins can be placed outside of the seam allowance parallel to the seam. Be sure to bury the points on the reverse side of the fabric to avoid pricked fingers!

## PROHIBITED MATERIALS

Thread jams and needle breakage are critical concerns. Material that is too thick or rigid will lead to needle breakage. Material that is too heavy may not be cut through by the knife. Leather will not need serging, and may dull the knife.

For those reasons, it is important to avoid:

- Abrasives
- Paper and cardboard products
- Pins in the fabric (see “pin safety”)
- Plastics
- Rigid Material (non-fabric)

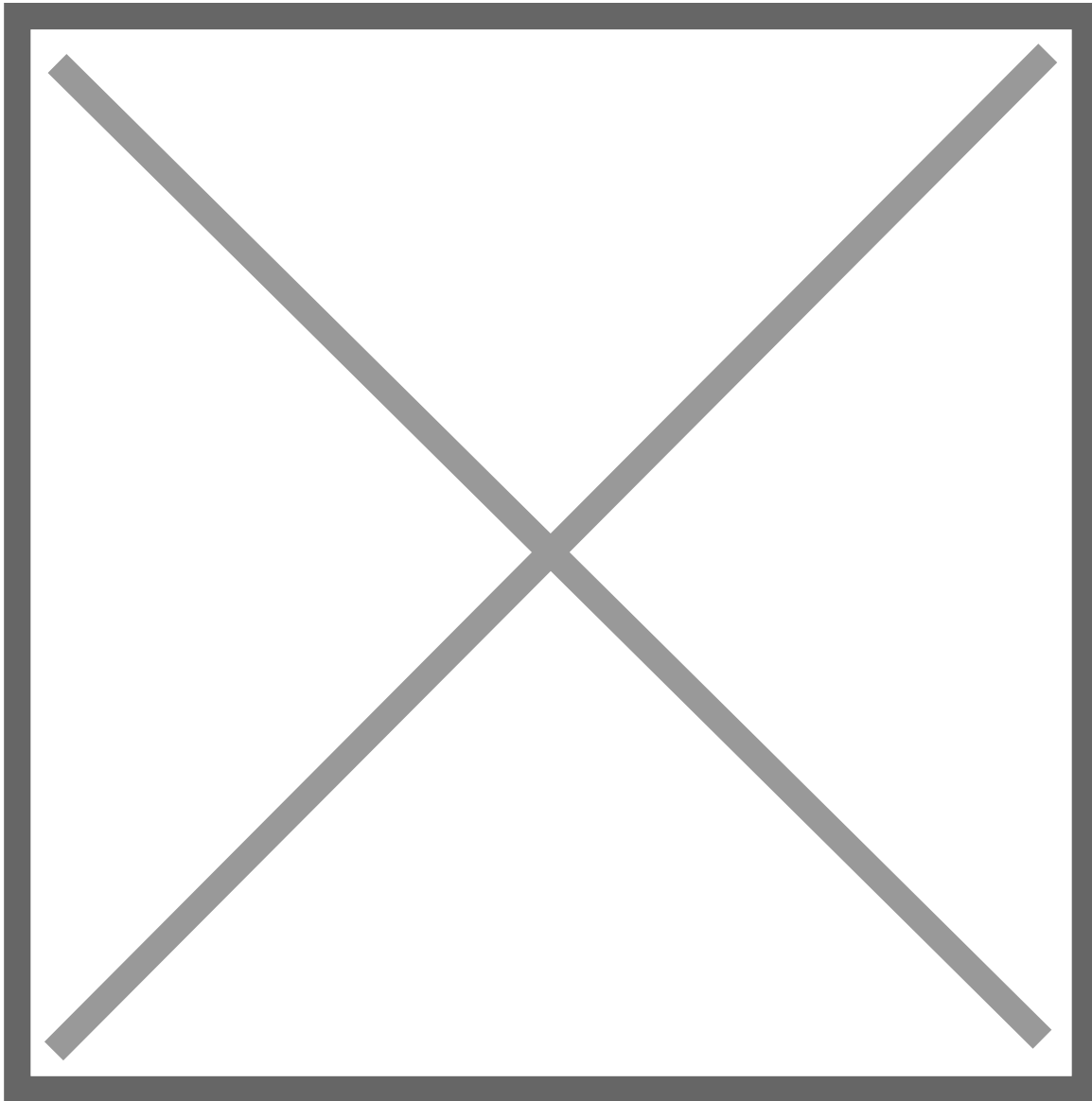
## SETUP CHECKLIST

- ✓ Wipe down the machine and bed to clean up any oil or dust.
- ✓ Open the underside of the machine and brush away accumulated lint.
- ✓ Add or take out the left needle, depending on desired seam type.
- ✓ Thread the machine with your thread.
- ✓ Power on the machine.
- ✓ Ensure the needle is usable and appropriate for the material and thread.
- ✓ Secure the presser foot in position and begin operation.
- ✓ Test sew on a scrap.

## Inserting the Needles

1. Bring the needle clamp(1)to its highest position using the handwheel.
2. Loosen needle clamp screws (2) and fully insert the needle into the clamp hole with the needle recess (scarf) facing backwards as viewed from the operator's side.
3. Tighten the needle clamp screw.
4. The left needle will sit higher than the right.

## Threading the Machine



1. From the thread holders, the thread goes up through the holes in the gray bars, down through and around the tree-like chrome bars (not shown) in and around the bar at the top of the machine, through the top hole on the tensioner, between the tension disc, out the bottom hole.
2. The blue and yellow lines go through the tunnels in the front of the machine, use a floss threader to pull through the holes.
3. Follow the yellow and blue line as marked by the dots, using tweezers.  
*ProTip: Thread the yellow line first! (The blue line overlaps it)*
4. Follow the color coding until the loopers pass under the presser foot.

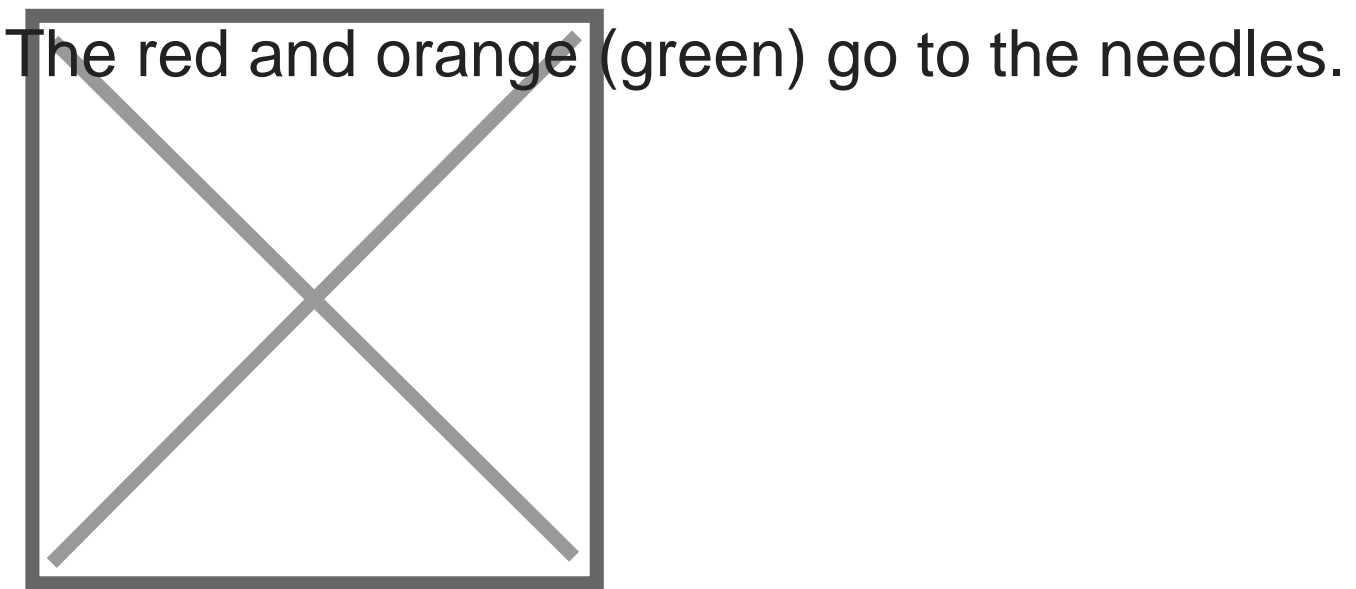
serg\_presser\_foot\_copy.jpg

Open the presser Foot (right) You will need to turn the hand-wheel to expose the parts as you thread them.

**VERY IMPORTANT!!** The hand-wheel on this machine goes **CLOCKWISE** -If your hand is at the top of the wheel, you will be pushing it **AWAY** from you.

serg_blue_looper.jpg	Lasthole blue	<p><b>Blue line:</b> Open the left side compartment.</p> <p>Pass the thread underneath the presser foot and into the hole in the back of the hook.</p> <p>Pass the thread back under, turn the handwheel (away from you) till you see the hole in the hook, this is the last hole.</p>
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tunnel and hole on the yellow line from right	The Yellow line has a critical component, a tiny diagonal tunnel and a small needle-like hole.
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Thread the Needles, following the Orange and Red lines as in the diagram (above) with special attention to the inset, there is a set of stationary holes on either side of the rocking hook.

Down through two sets of holes and under the keystone, last set of holes, and into the needles.

## CLEANUP CHECKLIST

1. Power off the Machine.
2. Reset any modified stitch sizes to default. (average)
3. Use a brush, tweezers and compressed air to remove fuzz around loopers and inside the bottom door. You should be able to see the thread guides inside.
4. Note any maintenance needs or concerns on the tag and at <http://prothaven.org/maintenance>.
5. Discard sliced edges, and all scrap fabric.
6. Sweep the floor around the table and machine.

## Maintenance Requests

If you encounter any of the issues listed in the Inspection area or have any other issues with the machine not working properly, notify a tech and record issues at

<http://prothaven.org/maintenance>. This notifies our staff and volunteer maintenance crew of any issues.

## Troubleshooting

Common Issues	Possible Causes	Resolutions	
Thread breaks	Needle inserted incorrectly, Machine not threaded correctly, bent needle, wrong thread and needle size for the fabric.	Check that the scarf of the needle is facing the back of the machine, revisit threading instructions, paying close attention to the last steps of the looper threading	
Seam curls or threads are loose	Incorrect tension for the weight of the fabric and size of the needle	Be sure you are using needle and thread appropriate for your fabric. Adjustments should be done in quarter turn increments!!	
Difficult to pass thread through the yellow and blue "tunnels"	Lint is built up inside	Use a floss threader to pull a heavy thread through the tunnels and use heavy thread to clean the tunnels.	

### Online sources for more information

<a href="http://Sewdaily.com">Sewdaily.com</a>	<a href="http://Doitbetteryourself.club">[[Doitbetteryourself.club]]</a> - Photos of every combination of tension errors and how to fix them.	
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Revision #7

Created 7 January 2025 22:13:19 by Paul Mazaitis

Updated 28 June 2025 15:34:46 by Valerie Hildenbrand