

Juki Walking Foot DNU1541S (S-Safety Mechanism)

The machine's stepping feeding motion promises the consistent feeding of materials of all thicknesses without stitch gathering.

1. Usage Highlights

Why a walking foot?

When working with one or two layers of light fabric, the feed dogs underneath move everything along just fine. But when you're working with multiple layers, like in a quilt or upholstery, the top layers may not be moving as fast or as easily as the bottom layers next to the feed dogs. This also becomes an issue when working with thick fabrics like denim and leather, with fabrics like vinyl or slippery satin fabrics. If you've ever gotten to the end of a seam and the top layer of fabric is now longer than the bottom, try a walking foot!

This machine also allows winding a spare bobbin while sewing.

2. PPE

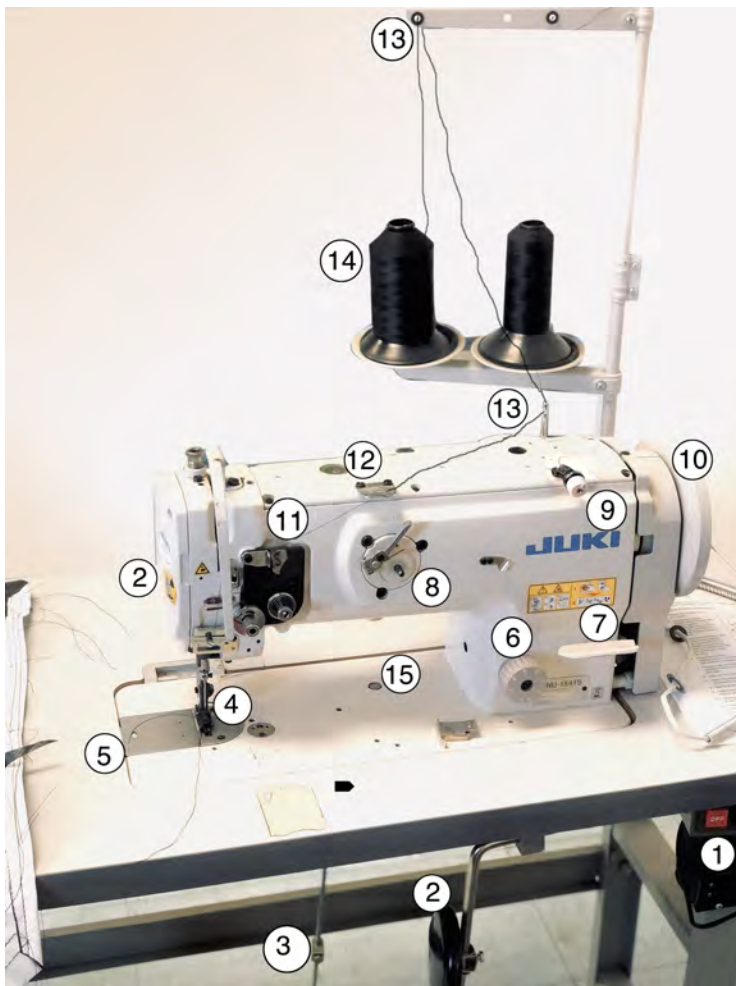
- Mask and disinfecting kit
- Bands to pull back hair

Prohibited Materials

Anything abrasive!

Permitted Materials

Leather, Vinyl, Canvas, Denim, Upholstery

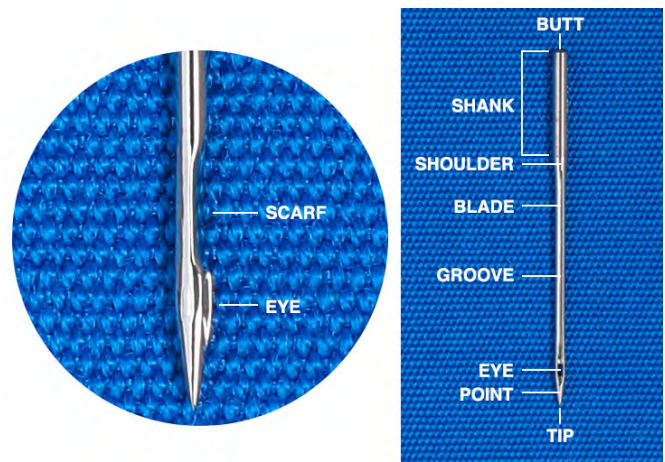


3. Juki 1541 Anatomy

1. On/Off Switch
2. Presser Foot Lifters
3. Foot Pedal
4. Needle/Presser Foot
5. Bobbin Housing
6. Stitch Length Selector
7. Reverse Lever
8. Bobbin Winder
9. Bobbin Winder Tension
10. Hand Wheel
11. Tensioners & Take-up Arm
- 12 & 13. Thread Guides
14. Thread Holders
15. Safety Clutch

5. Pre-sewing Checklist

- ❑ Especially before sewing light color fabrics, wipe down the machine and bed with a damp towel to clean up any oil or dust.
- ❑ Wind your bobbin, remember to keep the presser foot up!
- ❑ Threading: see the overview below or the video links below
- ❑ Loosen tension for thick materials
- ❑ DP x 17 is the standard needle for this machine
- ❑ Always thread the machine with the presser foot in the UP position



- ✓ Needle 135×17 (Nm160) Nm125~Nm180
Thread #30~#5, B46~B138, Nm=60/3~15/3

4. Tool Safety

Sewing machines have exposed moving parts that can catch loose hair, please pull long hair back for safety.

The motor retains power even after it is turned off! Run the machine till power is drained before replacing the needle or bobbin.

Use hands to guide, never push the fabric into the needle

Use the correct needle and thread combination for your fabric

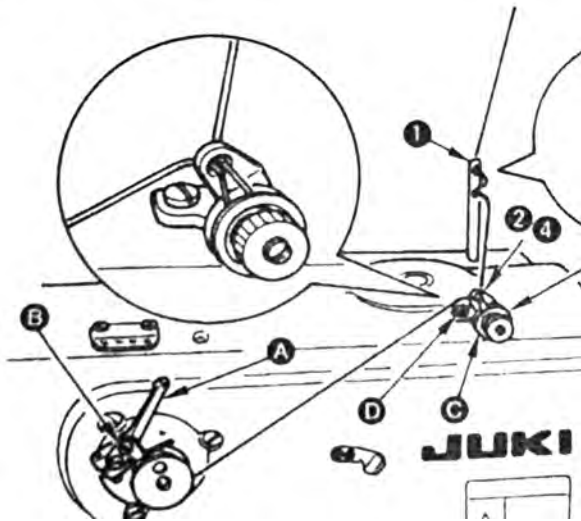
This machine is equipped with a safety mechanism that will lock out the hook (that part that loops around the bobbin while sewing) to avoid jamming. It must be reset before continuing.

If winding a bobbin without sewing, the presser foot must be in the up position, preferably without the needle in place to avoid damage to the feed dogs.

6. Basic Operation

- ✓ A sewing machine is much like driving a car - go slowly till you are accustomed to changing direction smoothly.
- ✓ Sit in a balanced, comfortable position so that even pressure is applied to the foot pedal, and you can feed fabric evenly. Use the same ergonomic principles as for a computer - elbows and knees at 90°, back straight.
- ✓ The needle has a rounded shank, it is correctly positioned when the scarf is to the right and groove to the left
- ✓ A magnetic seam guide is available
- ✓ The hand wheel moves toward you, never back
- ✓ Stitch length - hold down the reverse lever all the way down when adjusting
- ✓ Tension is right when the top thread isn't noticeable on the bottom, and bottom thread isn't noticeable on the top. Bobbins rarely need adjusting, always try the top tensioners first. Uneven tension makes for a weak seam!

Winding the Bobbin



After threading in the order as shown, flip lever “A” down, and use the presser foot lever at the back of the machine head to raise the presser foot.

Gently push the foot pedal until the bobbin is full. (it will shut off)

If the bobbin is lop-sided, it can be used with caution, although it can affect tension. Please flag the machine with a yellow tag, and submit a maintenance request

Threading the machine:



1. Top guide: How you use this guide will depend on thread thickness



2. Use two holes in the upper plate for most tasks



3. Loop through the vertical guide



4. With the presser foot UP, and holding thread taut on either side, pass the thread between the disks of the tension, between the spring guide, and above the spring. You should hear a light click as the thread crosses over a small hook on the inside of the disk. (just visible through the hole next to the spring)

Threading the machine:



5. Up through the pointy guide and through the thread take-up



6. Down through the rectangular guide



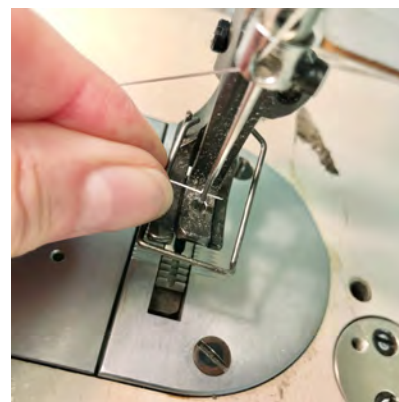
7. Down through and under the next two guides and the bottom slot: (2 photos)



7. (continued) Down through and under the next two guides and the bottom slot:



8. Through the hole above the needle



9. Thread the needle LEFT To RIGHT

Holding the thread to the right, move the wheel towards you, never away to get the top thread to take up the bobbin thread.

Gently hold the thread back as you begin to sew to avoid it pushing down around the hook below.

7. Teardown

- ☐ Turn off the power, put a scrap of fabric under the presser foot and press the foot pedal till the electricity from the motor drains. It will run about 7-8 inches of stitches with the power off!
- ☐ If tape is used as a guide, be sure it is completely removed.
- ☐ Check the bobbin housing for fuzz and brush it out
- ☐ Record issues at protohaven.org/maintenance. This notifies our staff and volunteer maintenance crew of any issues, then update the physical Maintenance Tag at the machine
 - Green can be used without issue
 - Yellow can be used with caution
 - Red cannot be used without hazard to either the user or the equipment
- ☐ Sweep up all threads and scraps of fabric!

8. Troubleshooting

Thread comes out of the tensioners

The tension take up spring should always bounce back down, not stay loose in an upward position. It will need to be adjusted.

The thread going around the second tension disk isn't pulled up till it clicks

Try re-threading the machine with the presser foot up to take tension off during threading

Missed stitches

The needle is inserted improperly

The needle is threaded right to left

The needle is bent or broken

The tensions have come un-done, see above

Loud noise while winding the bobbin

The presser foot is down. Use the manual lever to pick it up.

Can't pull stitched fabric away from the presser foot after sewing the seam, thread seems stuck

Push the knee pedal HARD to the right to dis-engage the tension

10. Additional Resources

Threading the machine

<https://www.youtube.com/watch?v=nxqTk4umcNs>

Juki Walking foot overview:

<https://www.youtube.com/watch?v=qfXDo4xr-FU>

<https://www.youtube.com/watch?v=cr2VmyJDZfk>

Sewing Gold Channel:

<https://www.youtube.com/channel/UC9DPdV59J32ftSwG2boGYlQ>

TRADERnel Channel:

<https://www.youtube.com/user/TRADERnel>

The Thread Exchange

<https://www.thethreadexchange.com>

Common errors:

https://www.youtube.com/watch?v=BCSwO_OxZNg

How to thread and oil the Juki walking foot:

<https://www.youtube.com/watch?v=aaNsmgHQzTo&t=31s>