

## **Sewing Machine Basics**

### **Preventive Machine Maintenance, Problems, and Possible Causes**

Most sewing machine problems can be traced to poor general maintenance or neglect. Depending upon how much use your sewing machine receives daily, weekly, or monthly, you will want to maintain it accordingly. All machines have owner's manuals that give recommendations for care and maintenance. If you do not have one for your machine, find a dealer or check on line at the manufacturer's Web site to order a copy. The goal is to keep your machine running and problem free. When problems do arise, check your owner's manual first and then the list given here for ways to correct them before heading off to the repair shop.

#### **Keep your machine clean.**

Making sure that your machine is lint and dust free is the most important factor to keeping it running smoothly. Cover your machine when not in use. This will prevent household dust, lint, and pet hair from settling in and on the machine. Covers are available for purchase, an old pillow case can be used, or your sewing skills can be used to custom-design one. A good habit follow is to clean your machine following each project or at least after the machine has been used for six to eight hours. Tension disks can accumulate thread lint and can be cleaned by sliding a folded piece of plain muslin between them. This will help dislodge any lint or fuzz that may have accumulated. When doing this, be sure the presser foot is raised to release the pressure between the disks. Compressed air ("canned air") may also be used to blow loose particles out and away from the machine. Never blow the air into the machine, as this can further compound the problem by packing the particles into the machine rather than removing them. Blowing into the machine yourself is not a good idea, either. Human breath contains moisture that can eventually cause corrosion.

The other place that seems to gather lint and fuzz from thread and fabric is the bobbin area. Remove the throat plate, bobbin case, and bobbin housing (hook mechanism) if possible from the machine (refer to owner's manual). Clean under the feed dog and around the bobbin area using a small brush. A pipe cleaner or chenille stem is also handy to get into small areas. With a small dot of sewing machine oil on a piece of muslin, clean the bobbin housing before replacing it in the machine. A drop of oil under the bobbin housing will also keep it running smooth. Always check your owner's manual for other places that require oil. Do not use household oil on your sewing machine; only use light oil that is recommended for sewing machines. If the oil has turned yellow, it should not be used, discard it and replace it with new oil. It is recommended that you take your machine to an authorized sewing machine technician every two years for a thorough cleaning, oiling, and possible adjusting.

### **Avoid breaking needles**

- ✂ Use the proper size needle for your selected fabric and thread.
- ✂ Make sure that the presser foot is securely fastened to the bar and that the needle goes through the center of the presser foot.
- ✂ Avoid “pulling” the fabric while sewing. This may cause the needle to become bent, resulting in the needle striking the metal throat plate. Keeping the fabric “taut” is alright, as this does not put added stress on the needle.
- ✂ Be sure the needle is tightly fastened and all the way up into the needle bar.
- ✂ Avoid sewing over pins.

### **Causes for looped stitches**

- ✂ Machine not threaded correctly. Be sure that the thread passes correctly through the thread take up and upper tension disk(s). Remove any lint that may be preventing tension disk(s) from doing their job.
- ✂ Bobbin may not be threaded correctly. Be sure that the thread passes through the tension slot correctly. In machines that have a removable bobbin case, the bobbin should turn in a clockwise direction when the thread is pulled. Most with drop in bobbins will turn counter clockwise.
- ✂ Needle may not be the correct size for the selected thread.
- ✂ Bobbin housing may be nicked. In some machines with plastic parts, it is not uncommon for them to become nicked by the needle. Smooth nicks with emery cloth or replace housing with a metal housing available from the dealer.

### **Causes for skipped stitches**

- ✂ Fabric has not been prewashed. Fabrics have finishes that will cause skipped stitches. If the finish cannot be removed by prewashing, apply a thread lubricant to your needle.
- ✂ Wrong size or type of needle for thread/fabric. Use a ball point or stretch needle for sewing knit fabric and a sharp needle for woven fabric.
- ✂ Needle may be bent or blunt.
- ✂ Needle incorrectly set into needle bar. Refer to your machine manual.
- ✂ Machine is out of time. This will require a trip to a technician to adjust.

### **Causes for upper thread breaking**

- ✂ Needle is in backwards or not set in completely. (The flat side of the needle is generally opposite the last thread guide above the needle and the direction of threading.)
- ✂ Machine is not threaded correctly. Be sure thread is not caught in a place where isn't supposed to be or catching on rough places.
- ✂ Tension may be too tight.
- ✂ Blunt or bent needle.
- ✂ Needle is too small for selected thread.
- ✂ Thread catching on thread spool. Be sure to place spool on machine in a way that the thread feeds off the spool smoothly and that the edges of the thread spool are smooth.
- ✂ Thread may not be good quality. Avoid buying bargain thread; it ends up causing more lint to be deposited in your machine and may break more frequently. Threads may even have knots that will not go through the needle.
- ✂ Thread may be old.

### **Causes for lower thread breaking**

- ✂ Improper threading of the bobbin case.
- ✂ Tension may be too tight.
- ✂ Thread on bobbin overfilled or not wound evenly.
- ✂ Too much tension on thread during bobbin winding.
- ✂ Knotted thread in the bobbin.
- ✂ Burr on edge of throat plate (caused by needle hitting it).

### **Machine runs hard or noisy**

- ✂ If the machine has set idle for a while, it may be gummed with oil and in need of a general cleaning.
- ✂ Thread may be caught in the bobbin case.
- ✂ Machine may need to be oiled.
- ✂ Belt may be slipping or be too tight.

### **Causes for puckered seams**

- ✂ Tension is too tight
- ✂ Stitch is too long for fabric being sewn, especially on lightweight, sheer fabric.
- ✂ Wrong presser foot used
- ✂ Needle may be blunt
- ✂ Hole in throat plate may be too wide. For straight stitching on lightweight, sheer fabric, replace with a single (small hole) needle throat plate.
- ✂ Upper thread and bobbin thread are not the same size or type.
- ✂ Presser foot pressure too heavy for the fabric.

In summary, avoid trouble with your sewing machine by following these simple rules:

1. Be sure the machine and bobbin are threaded correctly.
2. Keep the machine clean, free of lint, and in good condition.
3. Start each project with a new needle of the correct size and type for your fabric and thread.
4. Avoid sewing over pins by removing them before they go under the presser foot.
5. Take your machine in for service every two years for a maintenance checkup.

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