

Thread Tension

Correct tension

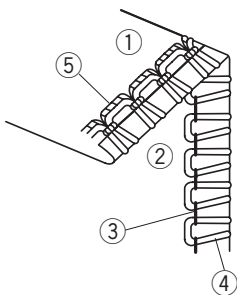
The illustration to the left shows a seam sewn at the correct tension. Note that you may need to adjust the thread tension depending on the fabric and thread being used.

- ① Wrong side of fabric
- ② Right side of fabric
- ③ Right needle thread
- ④ Upper looper thread
- ⑤ Lower looper thread

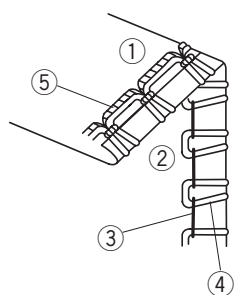
Thread tension adjustment

1. Set the tension dials as shown on page 42.
2. Sew and check the tension.
3. If the tension on the test piece is not satisfactory, you can adjust the thread tension with thread tension dial.

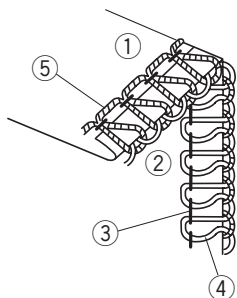
Rolled hemming



Picot edging



Narrow hemming



For rolled hemming and picot edging

* Thread tension adjustment for narrow hemming is the same as that for 3-thread overedging (refer to page 39).

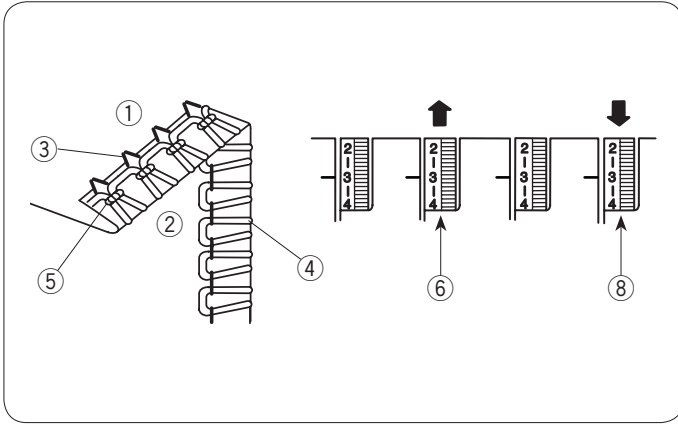
- ① Wrong side of fabric
- ② Right side of fabric
- ③ Right needle thread
- ④ Upper looper thread
- ⑤ Lower looper thread

The lower looper thread tension is too tight and/or the right thread tension is too loose

Remedy:

Tighten the right needle thread tension and/or loosen the lower looper thread tension.

- ⑥ Right needle thread tension dial
- ⑧ Lower looper thread tension dial

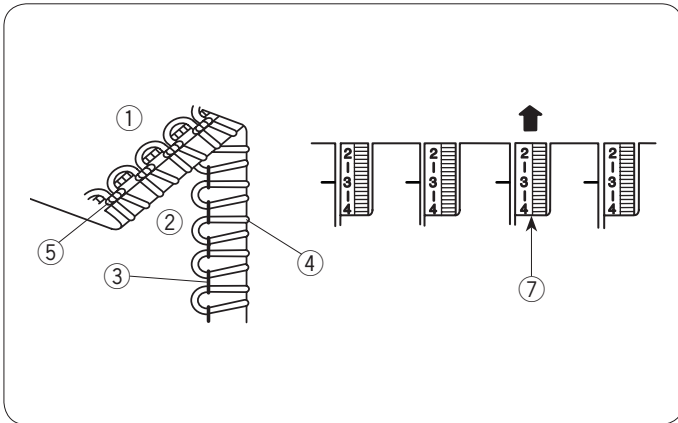


The upper looper thread tension is too loose

Remedy:

Tighten the right needle thread tension.

- ⑦ Upper looper thread tension dial

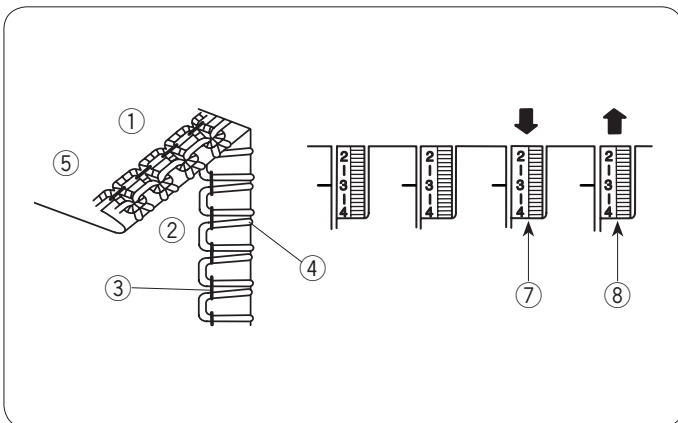


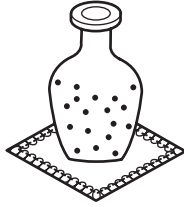
The lower looper thread tension is too loose and/or the upper looper thread tension is too tight

Remedy:

Loosen upper looper thread tension and/or tighten lower looper thread tension.

- ⑦ Upper looper thread tension dial
- ⑧ Lower looper thread tension dial





ADVANCED TECHNIQUES

Decorative Overedging

NOTE:

- You may need to adjust the thread tension.
- For best results, gently pull the thread chain to the back at the beginning and end of sewing.

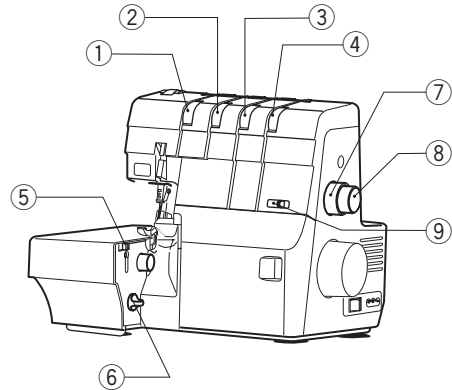
⚠ CAUTION

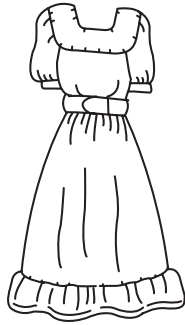
Make sure to turn the power switch off before changing the needle, deactivating/activating the upper knife or setting the chaining finger switch knob.

Machine Setting				
Lower looper pre-tension setting slider	STD. STD. TIGHT 			
Standard setting of tension dials	Left needle	Right needle	Upper looper	Lower looper
	5	5	1-2	6
Stitch length dial	3-4			
Differential feed dial	1.0			
Chaining finger switch knob	S S			
Upper knife	Activated -			
Needle	Use both the right and left needles: HA-1 SP No. 14			
Needle thread	Synthetic: No. 60 - 80			
Upper looper thread	Decorative thread * Use the looper threading wire or a standard thread for threading.			
Lower looper thread	Synthetic: No. 60 - 100			
Fabric	Medium weight or heavy weight			

- ① Left needle thread tension dial
- ② Right needle thread tension dial
- ③ Upper looper thread tension dial
- ④ Lower looper thread tension dial
- ⑤ Chaining finger switch knob
- ⑥ Upper knife release knob
- ⑦ Stitch length dial
- ⑧ Differential feed dial
- ⑨ Lower looper pre-tension setting slider

- * Refer to page 10 for details on how to remove the needle.
- * Refer to page 11 for details on how to adjust the stitch length.
- * Refer to page 11 for details on how to adjust the difference ratio.
- * Refer to page 12 for details on how to deactivate/activate the upper knife.
- * Refer to page 13 for details on how to adjust the chaining finger switch knob.





Machine Setting				
Lower looper pre-tension setting slider	STD. TIGHT STD.			
Standard setting of tension dials	Left needle	Right needle	Upper looper	Lower looper
	3	3	3	3
Stitch length dial	3-4			
Differential feed dial	2.0			
Chaining finger switch knob	S S			
Upper knife	Activated -			
Needle	Use both the right and left needles: HA-1 SP No. 14 or No. 11			
Needle thread	Synthetic: No. 60 - 80			
Upper looper thread	Synthetic: No. 60 - 100			
Lower looper thread	Synthetic: No. 60 - 100			
Fabric	Medium weight, light weight			

Gathering

Sew and check the thread tensions.

If the tension balance on the test piece is not satisfactory, you can adjust the thread tension with the thread tension dial.

* Adjust the differential feed dial between 1.0 and 2.0 for gathering.

CAUTION

Make sure to turn the power switch off before changing the needle, deactivating/activating the upper knife or setting the chaining finger switch knob.

- ① Left needle thread tension dial
- ② Right needle thread tension dial
- ③ Upper looper thread tension dial
- ④ Lower looper thread tension dial
- ⑤ Chaining finger switch knob
- ⑥ Upper knife release knob
- ⑦ Stitch length dial
- ⑧ Differential feed dial
- ⑨ Lower looper pre-tension setting slider

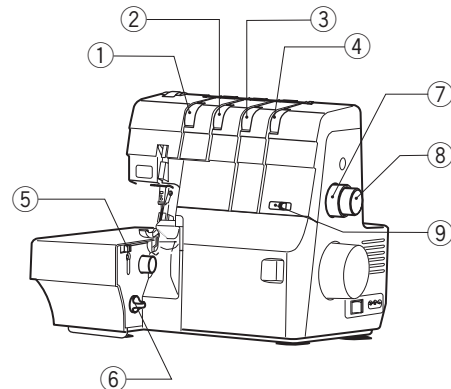
* Refer to page 10 for details on how to remove the needle.

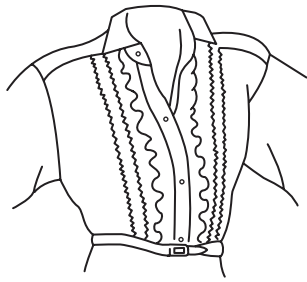
* Refer to page 11 for details on how to adjust the stitch length.

* Refer to page 11 for details on how to adjust the difference ratio.

* Refer to page 12 for details on how to deactivate/activate the upper knife.

* Refer to page 13 for details on how to adjust the chaining finger switch knob.





Pintucking

NOTE:

- You may need to adjust the thread tension depending on the type of fabric and thread being used.
- If the tension balance on the test piece is not satisfactory, you can adjust the thread tension with the thread tension dial.

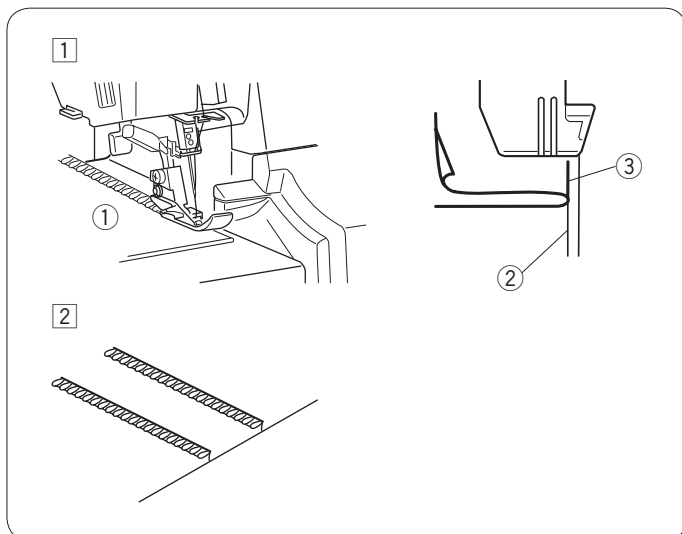
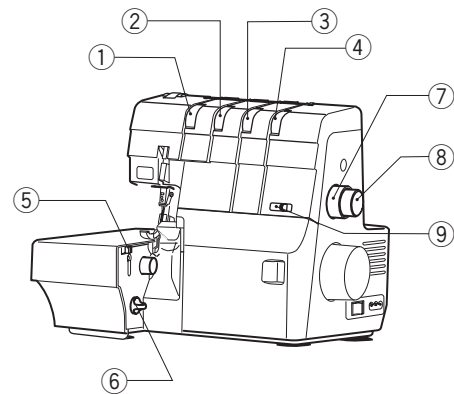
⚠ CAUTION

Make sure to turn the power switch off before changing the needle, deactivating/activating the upper knife or setting the chaining finger switch knob.

Machine Setting				
Lower looper pre-tension setting slider	STD. STD. TIGHT STD.			
Standard setting of tension dials	Left needle	Right needle	Upper looper	Lower looper
	-	4	5-7	2-4
Stitch length dial	R			
Differential feed dial	1.0			
Chaining finger switch knob	R S			
Upper knife	Deactivated			
Needle	Use the right needle: HA-1 SP No. 14 or No. 11			
Needle thread	Synthetic: No. 80 - 100			
Upper looper thread	Synthetic: No. 80 - 100			
Lower looper thread	Synthetic: No. 80 - 100			
Fabric	Light weight, knit fabric			

- ① Left needle thread tension dial
- ② Right needle thread tension dial
- ③ Upper looper thread tension dial
- ④ Lower looper thread tension dial
- ⑤ Chaining finger switch knob
- ⑥ Upper knife release knob
- ⑦ Stitch length dial
- ⑧ Differential feed dial
- ⑨ Lower looper pre-tension setting slider

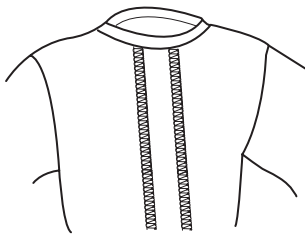
- * Refer to page 10 for details on how to remove the needle.
- * Refer to page 11 for details on how to adjust the stitch length.
- * Refer to page 11 for details on how to adjust the difference ratio.
- * Refer to page 12 for details on how to deactivate/activate the upper knife.
- * Refer to page 13 for details on how to adjust the chaining finger switch knob.



Sewing

- ① Sew the folded edge while guiding it along the guide line.
 - ① Right side of fabric
 - ② Folded edge
 - ③ Guide line on the needle plate
- ② Open the fold flat and press the pintucks to one side.

- * After you finish sewing, return the upper knife to the original position (activated).



Flatlock

NOTE:

- You may need to adjust the thread tension depending on the type of fabric and thread being used.
- If the tension balance on the test piece is not satisfactory, you can adjust the thread tension with the thread tension dial.

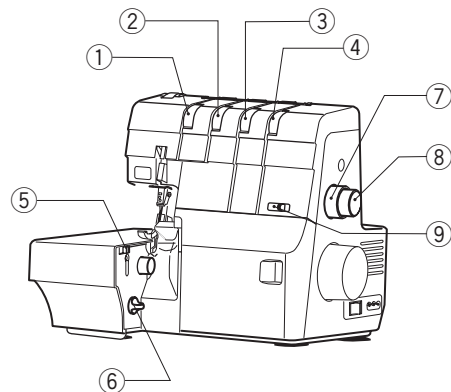
⚠ CAUTION

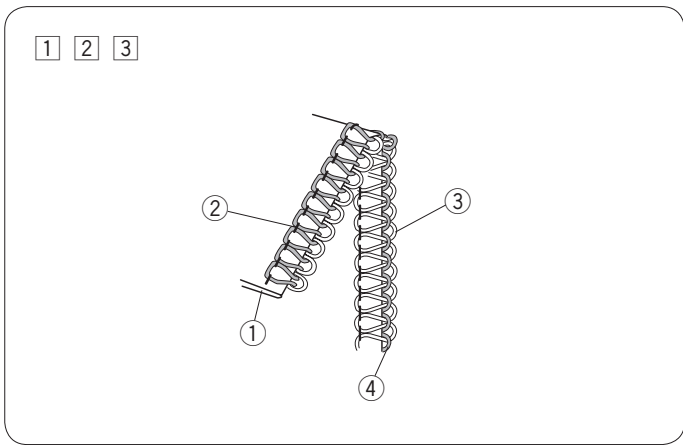
Make sure to turn the power switch off before changing the needle, deactivating/activating the upper knife or setting the chaining finger switch knob.

Machine Setting				
Lower looper pre-tension setting slider	STD. STD. TIGHT 			
Standard setting of tension dials (1 needle 3 threads)	Left needle	Right needle	Upper looper	Lower looper
	0-2	-	0	6-7
Standard setting of tension dials (1 needle 2 threads)	Left needle	Right needle	Upper looper	Lower looper
	0-2	-	-	7
Spreader (1 needle 2 threads)				
Stitch length dial	3-4			
Differential feed dial	1.0			
Chaining finger switch knob	S S			
Upper knife	Deactivated			
Needle	Use the left needle: HA-1 SP No. 14 or No. 11			
Needle thread	Synthetic: No. 60 - 100			
Upper looper thread	Left needle	Right needle	Upper looper	Lower looper
	Synthetic: No.60-100		Decorative thread	Synthetic: No.60-100
Lower looper thread	Left needle	Right needle	Upper looper	Lower looper
	Synthetic: No.60-100			Decorative thread
* Use the looper threading wire or a standard thread for threading.				
Fabric	Medium weight			

- ① Left needle thread tension dial
- ② Right needle thread tension dial
- ③ Upper looper thread tension dial
- ④ Lower looper thread tension dial
- ⑤ Chaining finger switch knob
- ⑥ Upper knife release knob
- ⑦ Stitch length dial
- ⑧ Differential feed dial
- ⑨ Lower looper pre-tension setting slider

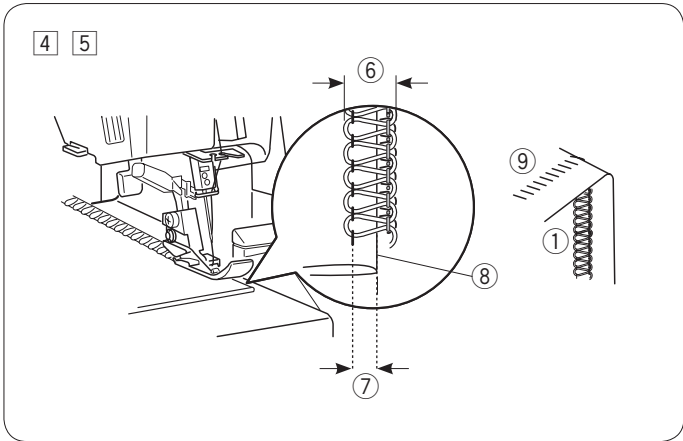
- * Refer to page 10 for details on how to remove the needle.
- * Refer to page 11 for details on how to adjust the stitch length.
- * Refer to page 11 for details on how to adjust the difference ratio.
- * Refer to page 12 for details on how to deactivate/activate the upper knife.
- * Refer to page 13 for details on how to adjust the chaining finger switch knob.
- * Refer to page 18 for details on how to raise and lower the spreader.





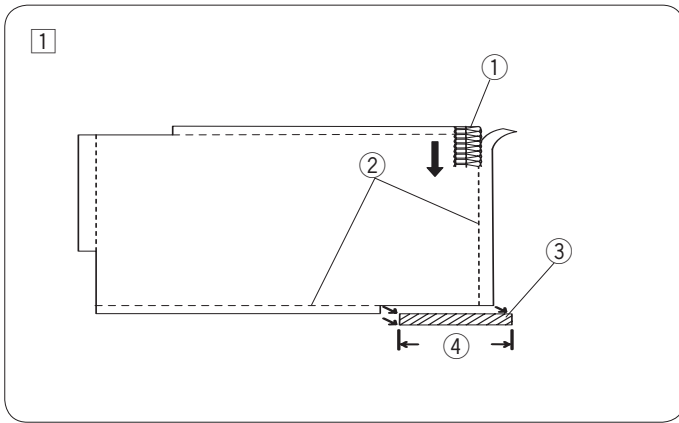
Sewing

- 1 Fold the fabric wrong sides together.
 - 1 Wrong side of fabric
- 2 Adjust the seam width as twice as the cutting width.
- 3 Sew a test piece and check the tensions.
 - 2 Needle thread
 - 3 Upper looper thread
 - 4 Lower looper thread



- 4 Deactivate the upper knife and sew.
- 5 Open the fabric and iron the wrong side.
 - 1 Right side of fabric
 - 6 Seam width
 - 7 Cutting width
 - 8 Folded edge
 - 9 Wrong side of fabric

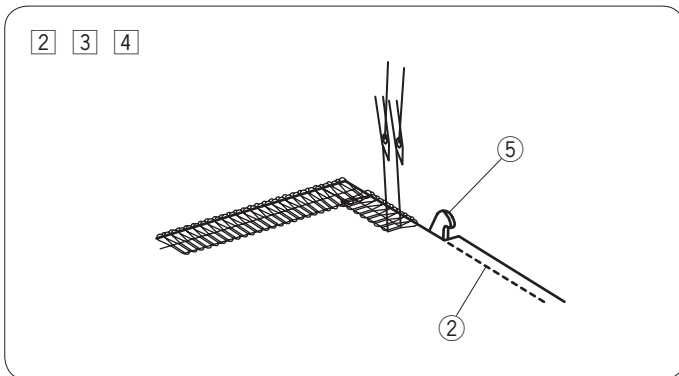
* Adjust the seam width according to the results.



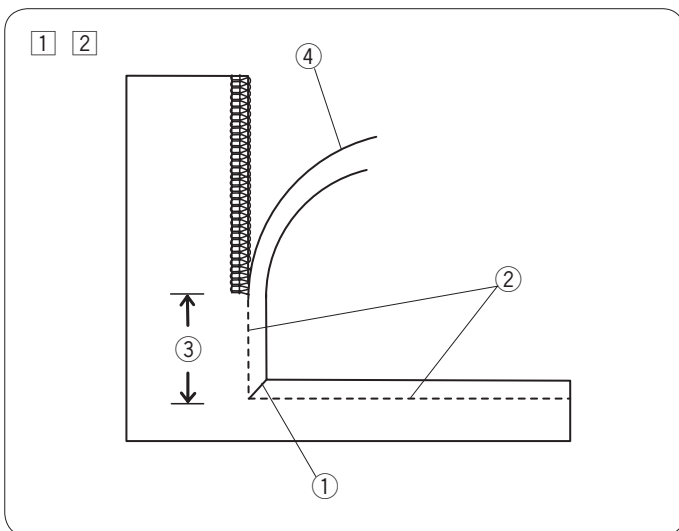
Sewing Corners

Outer corners

- 1 Trim three corners (other than the starting point) 3 cm as illustrated.
 - 1 Starting point
 - 2 Cutting line
 - 3 Trimmed corner
 - 4 3 cm

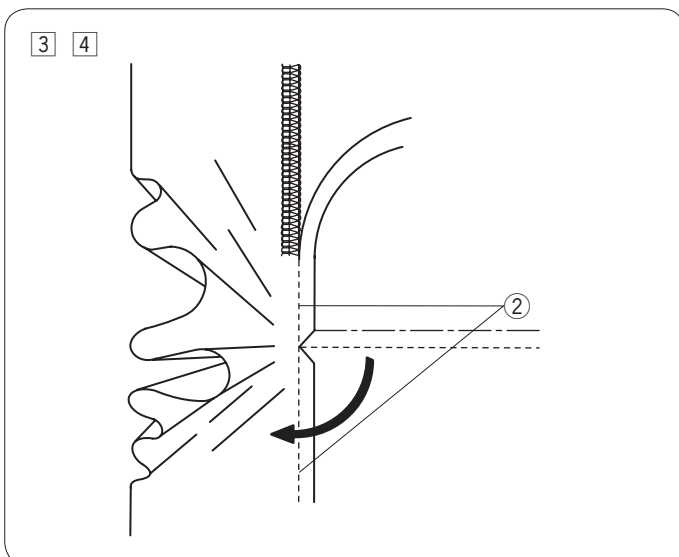


- 2 When you reach the next corner, stop the machine. Raise the needle and the presser foot. Remove the threads from the chaining finger and turn the fabric. Align the cutting line with the upper knife.
 - 5 Upper knife
- 3 Lower the presser foot lifter.
- 4 Continue to sew from where the previous stitches on the corner ended.



Inner corners

- 1 Cut the inner corner as illustrated.
 - 1 Inner corner
- 2 Sew and stop 3 cm before the inner corner.
 - 2 Cutting line
 - 3 3 cm
 - 4 Cutting allowance



- 3 Turn the fabric so that the cutting lines are straight and insert the fabric under the foot.
- 4 Continue to sew.

Troubleshooting

Condition	Cause	Reference
The machine does not operate.	<ol style="list-style-type: none"> 1. The machine is not been plugged in properly. 2. The power switch is turned off. 3. The safety device is activated. 	<p>Refer to page 7. Turn the power switch ON. Refer to page 4.</p>
The fabric is not being fed smoothly.	<ol style="list-style-type: none"> 1. The presser foot is raised. 2. The foot pressure is too low. 3. The feed dog is packed with lint. 	<p>Lower the presser foot. Refer to page 10 Refer to page 52.</p>
The needle breaks.	<ol style="list-style-type: none"> 1. The wrong needle is used or the needle is incorrectly inserted. 2. The needle is bent or worn. 3. The fabric is forcibly pulled. 	<p>Refer to page 10. Refer to page 10. Pull the fabric lightly.</p>
The thread breaks.	<ol style="list-style-type: none"> 1. The machine is not correctly threaded or the thread is tangled. 2. The thread tension is too tight. 3. The wrong needle is used or the needle is incorrectly inserted. 4. The needle is bent or blunt. 5. A poor quality thread is used. 	<p>Refer to pages 19-32. Refer to pages 37-41 and 45. Refer to page 10. Refer to page 10. Refer to page 15.</p>
Skipped stitches	<ol style="list-style-type: none"> 1. The wrong needle is used or the needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The machine is not correctly threaded or the thread is tangled. 	<p>Refer to page 10. Refer to page 10. Refer to pages 19-32.</p>
The seam is not sewn neatly.	<ol style="list-style-type: none"> 1. The thread is not correctly inserted between the tension disks. 2. The thread tension is too strong or too loose. 3. The machine is not correctly threaded or the thread is tangled. 4. The chaining finger is not set correctly. 5. The needle and/or the thread are not suitable for the fabric being sewn. 	<p>Refer to pages 19, 22, 28 and 31 Refer to pages 37-41 and 45. Refer to pages 19-32. Refer to page 13. Refer to pages 33, 42, 46-49.</p>
Seam puckering	<ol style="list-style-type: none"> 1. The thread tension is too tight. 2. The machine is not correctly threaded or the thread is tangled. 3. The stitch length dial and/or the differential feed dial is not correctly adjusted. 4. The chaining finger is not set correctly. 	<p>Refer to pages 37-41 and 45. Refer to pages 19-32. Refer to pages 33, 42, 46-49. Refer to page 13.</p>
The fabric curls.	<ol style="list-style-type: none"> 1. The upper looper thread tension or the lower looper thread tension is too tight. 2. The chaining finger is not set correctly. 	<p>Refer to pages 38-41 and 45. Refer to page 13.</p>
The fabric is not cut neatly.	<ol style="list-style-type: none"> 1. The upper knife is deactivated. 2. The upper knife is dull. 	<p>Refer to page 12. Refer to page 54.</p>
The cutting width is too narrow or too wide for the seam width.	<ol style="list-style-type: none"> 1. The cutting width is not adjusted correctly. 	<p>Refer to page 12.</p>
The looper threader does not work.	<ol style="list-style-type: none"> 1. The looper threader switch lever is not set to the "THREADING" position. 2. The looper selection lever is not set correctly. 3. The thread is not inserted into the looper threader hole 2 cm or more. 4. The thread is not drawn long enough before it is inserted into the looper threader hole. 5. The thread is tangled in front of the looper threader hole. 6. The thread is wet. 7. The thread is frayed. 8. Lint is accumulated in the looper threader pipe. 	<p>Refer to pages 20, 23. Refer to pages 20, 23. Refer to pages 20, 23. Refer to pages 20, 23. Refer to pages 20, 23. Trim the wet thread end. Trim the thread end. Refer to page 53.</p>
The needle threader does not work.	<ol style="list-style-type: none"> 1. The "o" mark on the belt cover is not aligned with the "-" mark on the handwheel. 2. The needle threader switch lever is not set correctly. 3. The needle threader is not used correctly. 	<p>Refer to page 30. Refer to page 30. Refer to page 30.</p>