JUKI

(For wide-area perfect stitching)
AMS-215P

No.00
169109

INSTRUCTION MANUAL

INTRODUCTION

Congratulations on your purchase of a JUKI machine.
To get the most out of the many functions of this machine and operate it in safety, it is necessary to use this machine correctly.
Please read this Instruction Manual carefully before use. We hope you will enjoy the use of your machine for a long time. Please remember to keep this manual in a safe place.
This Instruction Manual covers the operating procedure for the mechanisms exclusively designed for AMS-215P model of wide-area perfect stitching machine.
Please refer to the Instruction Manuals shown below for how to operate the control and other mechanisms. (See the contents which give in detail where those mechanisms are described.)

Name of P type machine	Instruction Manual for relevant type of machine	Product No.
AMS-215P	AMS-215C	29145208

Note, before start to operate the sewing machine, that some of the pictographs, that are common to the AMS Series of sewing machine, used in the aforementioned Instruction Manual for the relevant type of machine are partly different in orientation and shape from those used for the P-type machine. (e.g., the Threading switch [ ] on the control box)

This instruction manual only covers the items that have a page No., on their right, on which the respective items are described. This Manual does not provide an explanation of the items without a page No. Refer to the Instruction Manual for the AMS-215C for the explanation of those items, when necessary.

CONTENTS

I. GENERAL

This model of sewing machine is a computer controlled sewing machine for industrial use that comes with features of and operates in the way same as the AMS-215C.

1. Model name of the sewing machine

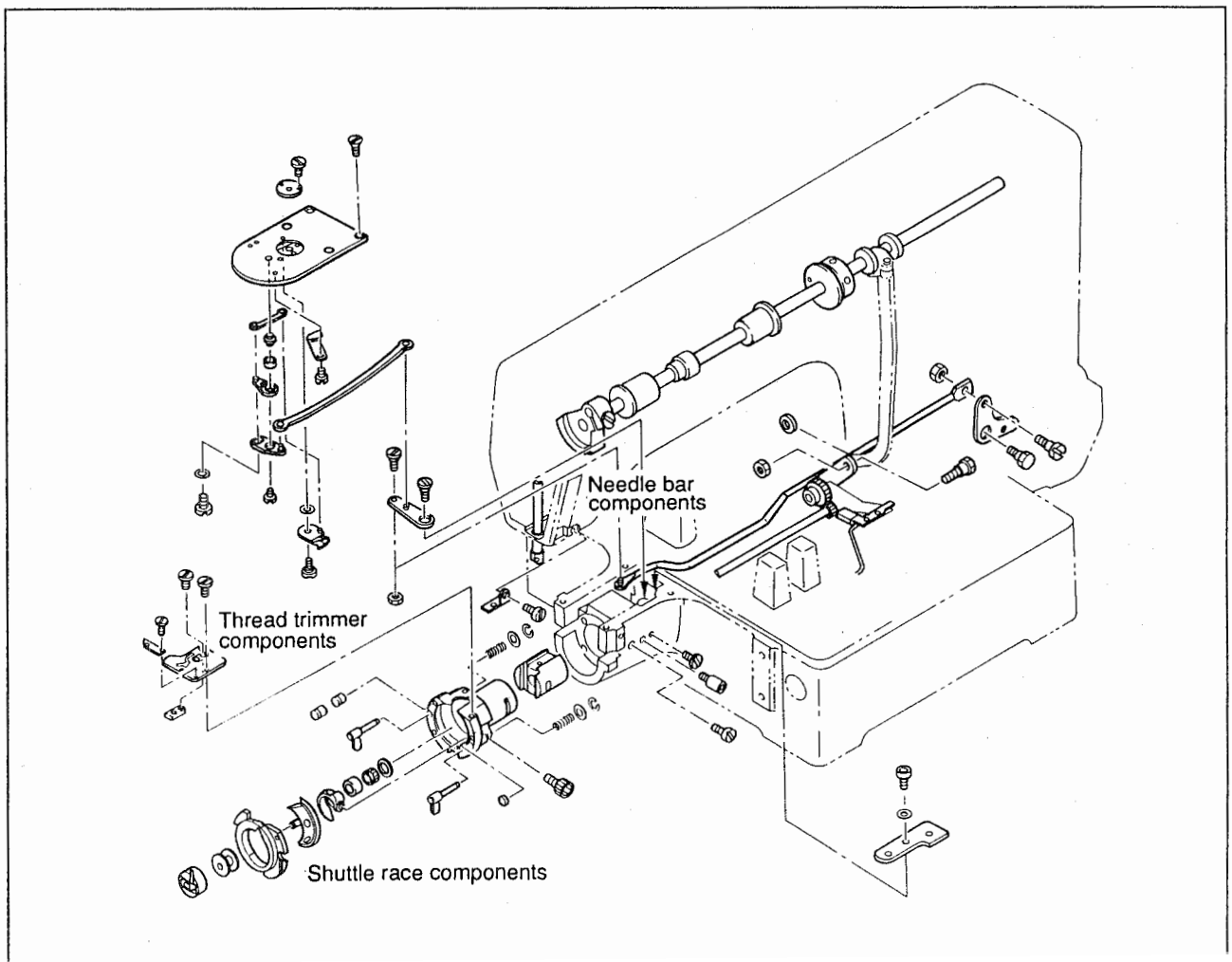
AMS-215P □ □ 5 △△△ Z

Specifications	Feeding frame	Subclass
S : Standard H : For heavy-weight materials	S : Standard B : Double-stepped stroke feeding frame L : Separately-driven feeding frame T : Inverting feeding frame	5000 : Standard 5001~: Subclass 5550 : Provided with an inverting intermediate presser

※ Specification G is not available.

2. Configuration

Components other than those shown in the figure below are same as the AMS-215C.



stitched seam quality.

* The range, in terms of feeding direction, within which hitch stitches are made is reduced to one-third or less of the conventional one.

(2) In case of a rectangle label, the machine is capable of sewing the four sides with perfect stitches.

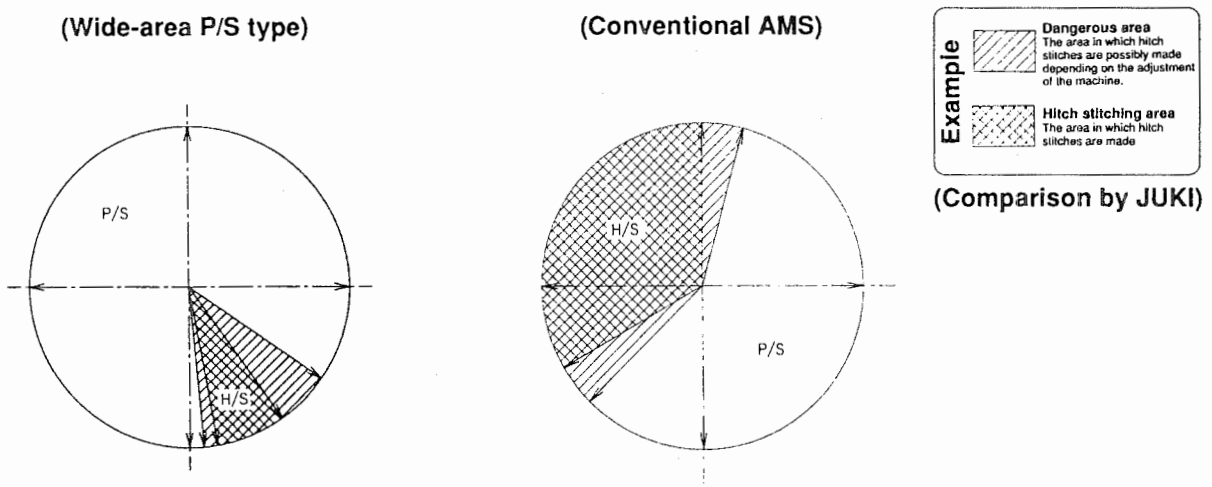
(3) The machine is capable of making double-row straight stitches using the perfect stitching function. This means that uniformly tensed knots of needle thread and bobbin thread are made, thereby finishing beautiful parallel seams.

(4) Conventionally, sewing troubles such as thread breakage, stitch skipping and isolated idling loops are likely to occur when the machine performs hitch stitching. This model of sewing machine reduces those sewing troubles and thus performs stitching with consistency.

(5) Since the machine incorporates a large hook (1.8 times as large as the regular hook), the frequency of bobbin changing is reduced.

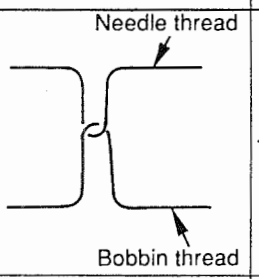
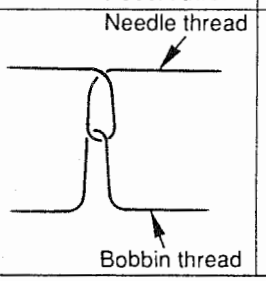
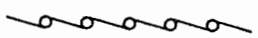
(6) The machine is provided with many superb features of the AMS-215C including the sewing area (110 mm (L) x 180 mm (W)) that is best-suited to the sewing of small part, highly accurate stitching performance with a resolution of 0.1 mm, area under the arm (sewing area + 180 mm) and lift of the feeding frame (max. 30 mm).

Comparison of perfect stitches (P/S) and hitch-stitching (H/S) area between AMS-215P and the conventional AMS model of sewing machine



(Caution) The illustration given above shows perfect stitches and hitch stitches in case where the machine radially sews a material from the center of circle toward the periphery.

(Perfect stitches and hitch stitches)

	Knots of stitches	Finished seam	Feature
Perfect stitch			• Provides consistently-finished seams. • Ensures beautiful seams. • Finishes well-tensed seams. • Slip-off of the thread is likely to occur at the start of sewing.
Hitch stitches			• Thread untwist heavily and sewing troubles are likely to occur. This impairs consistent stitching performance. • Quality of finished stitches is poor. • Thread fails to be well tensed. • Slip-off of the thread is not likely to occur.

III. OPERATION

1. Selecting a suitable needle and needle hole guide

Material	Needle	Diameter of needle hole guide	Thread	Sewing product
Synthetic material	#11~#14 DP x 5 (DP x 17)	ø1.6	#60~#30	Men's wear, ladies' wear, chemical shoes
Medium-weight materials	#14~#18 (DP x 5) DP x 17	ø2, ø2.4	#30~#20	Men's wear, ladies' wear
Heavy-weight materials	#18~#21 (DP x 5) DP x 17	ø2.4, ø3	#20~#8	Work uniforms, coats, bags

※ The needle guide is exclusive to the P type. Refer to the page (page 19) on which the options are described.
※※ The combination shown in the table is mere reference. So, the ideal combination may differ in accordance with the sewing condition.

2. Selecting a suitable needle bar thread guide

(2-holed)
For standard materials

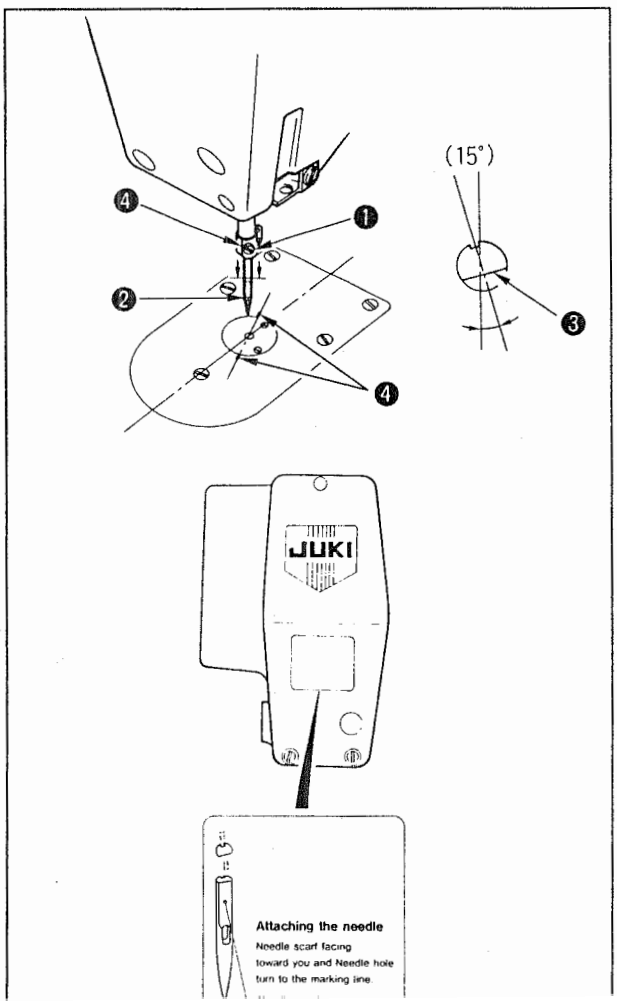
(1-holed)
For heavy-weight materials

Specification	Part No.	Count No. of thread
Standard (S type)	B1405 215 P00	#30~#60
Heavy-weight (H type)	B1406 215 P00	# 8~#50

※ If the sewing performance is inconsistent at the start of sewing, stitch skipping occurs or thread splits finely, use the 2-holed needle bar thread guide for standard materials.
※※ If the thread fails to be well-tensed, use the 1-holed needle bar thread guide for heavy-weight materials.

3. Attaching the needle

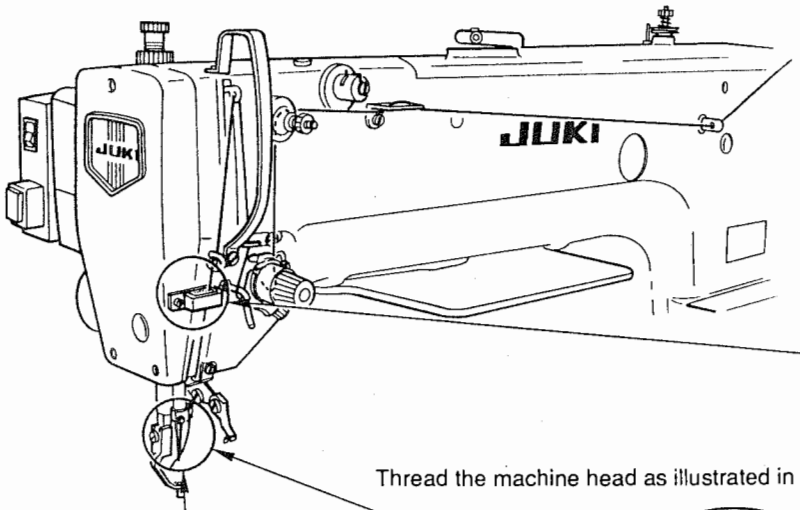
* Be sure to attach the needle with the power to the machine turned OFF.



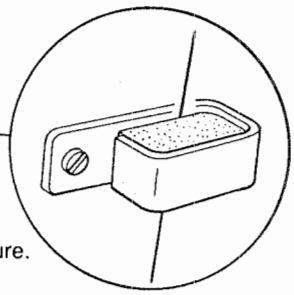
Loosen screw ❶ .
Insert needle ❷ into the hole in the needle bar until it will go no further.
Positioning needle ❷ so that scarf ❸ on the needle faces toward you, tilt the needle by 15° with the marker line ❹ engraved on the needle bar thread guide aligned with marker line ❹ on the throat plate. Now, tighten screw ❶ .

(Caution) 1. If hitch stitches are frequently made, slightly increase the inclination of the needle while taking the aforementioned 15° as reference.
2. If stitch skipping occurs, slightly decrease the inclination of the needle while taking the aforementioned 15° as reference.
3. When sewing a heavy-weight material with a synthetic thread, be sure to use a super needle for synthetic thread.

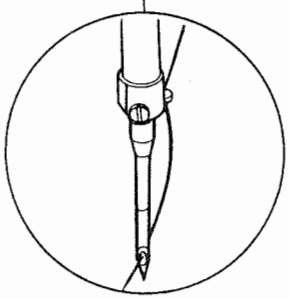
Note that the label shown in the figure which describes how to install the needle is adhered on the face plate of the sewing machine.

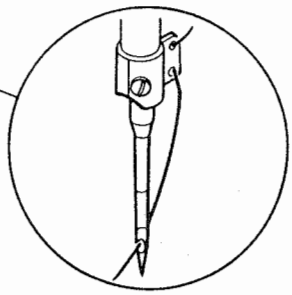


When the thread guide for the silicon oil lubricating unit supplied with the machine is used



Thread the machine head as illustrated in the figure.

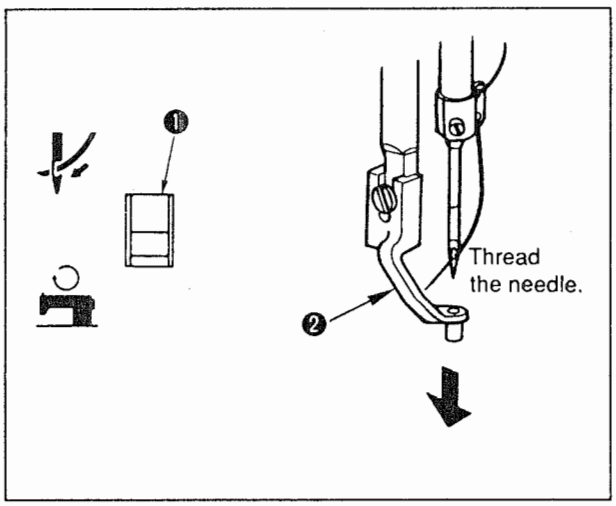




Specification: Standard (S)

Specification: For heavy-weight materials (H)
Type of feeding frame: Pneumatic type, double-stepped stroke, inverting feeding frame (AIR) (T)

A threader is supplied as an accessory. This will help you thread the needle with ease.

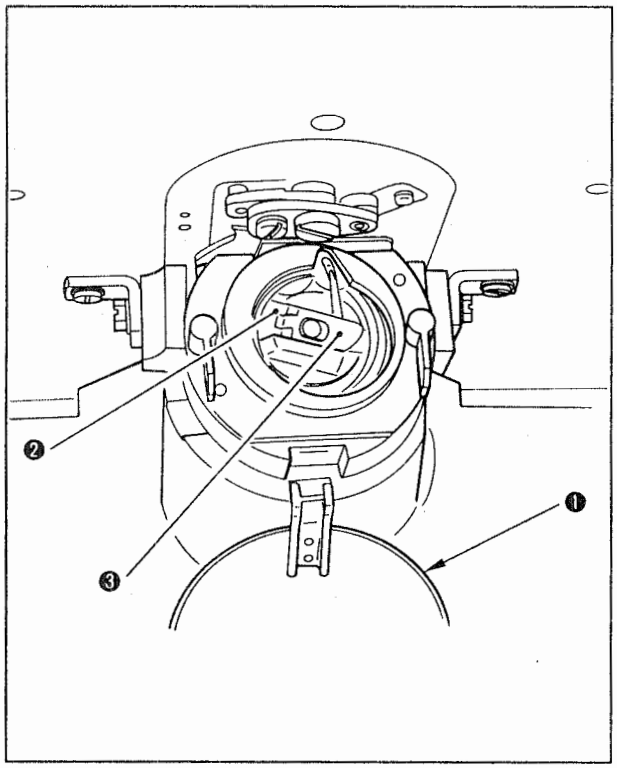


Set Needle threading switch ❶ to the side, and intermediate presser ❷ will come down. Now, thread the needle.

(Caution) 1. When the intermediate presser comes down, the feeding frame also descends. So, be careful.

2. If you move the needle threading switch up and down when the needle is not in its upper resting position (Error 3), the sewing machine will automatically rotate and stop with its needle up. At this time, make sure that there is nothing under the needle.

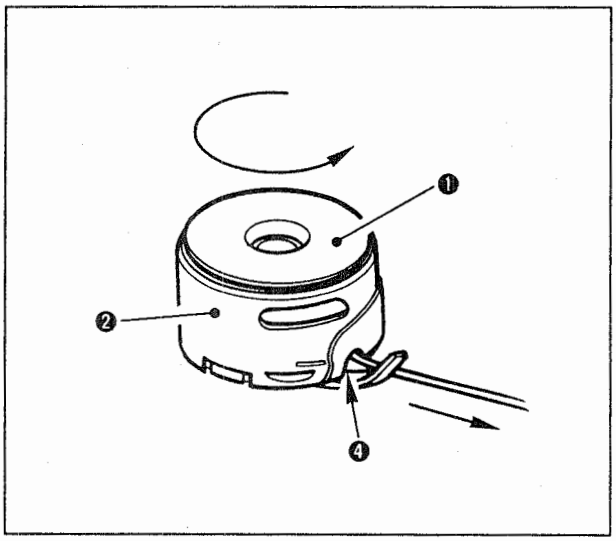
5. Attaching/removing the bobbin case



1) Open hook cover ❶ .
2) Fully raise latch ❸ of bobbin case ❷ , and take the bobbin case out of the hook.
   The bobbin fitted in the bobbin case will not come off by holding the latch with fingers.
3) To load the bobbin case in the hook, be sure to raise latch ❸ and fit the case over the hook driving shaft until it clicks. Then, snap in the latch lever of the bobbin case.

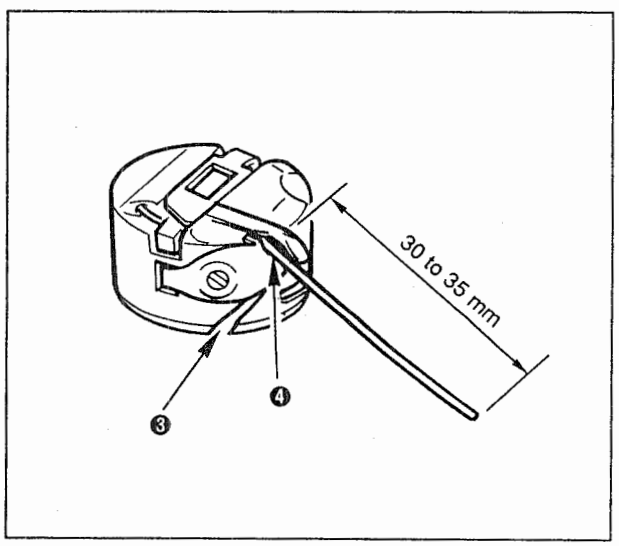
(Caution) If bobbin case ❷ is not fully fitted onto the hook driving shaft, it may come off during sewing. So, carefully load the bobbin case.

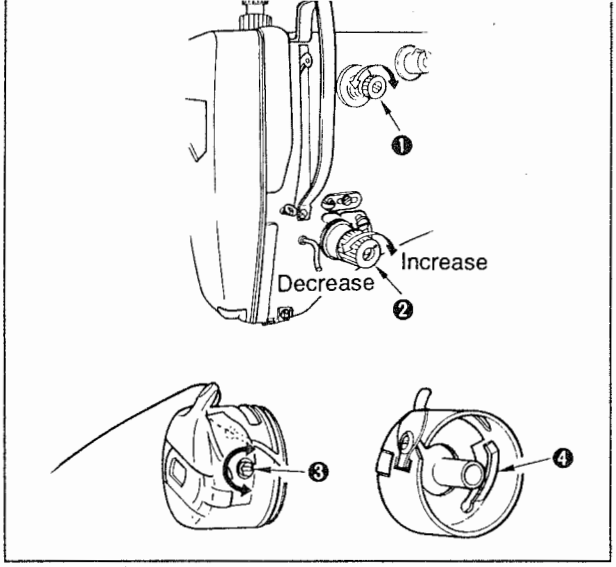
6. Fitting the bobbin in the bobbin case



1) Hold bobbin ❶ by hand in a way that the end of thread wound round the bobbin is directed to the right as observed from you, and set it in bobbin case ❷ .
2) Pass the thread through slit ❸ in the bobbin case. Now, pull the thread, and the thread will pass under the tension spring and come out from thread exit ❹ . At this time, make sure that the bobbin turns in the direction of the arrow in the figure when the thread is pulled.
3) Pull the thread from the hole in thread exit ❹ by approximately 30 to 35 mm to allow the thread to trail outside the bobbin case.

(Caution) If the bobbin is loaded in the bobbin case in the reverse direction, the bobbin thread tension will fail to be uniform because of the idling prevention spring. So, carefully install the bobbin in the bobbin case.





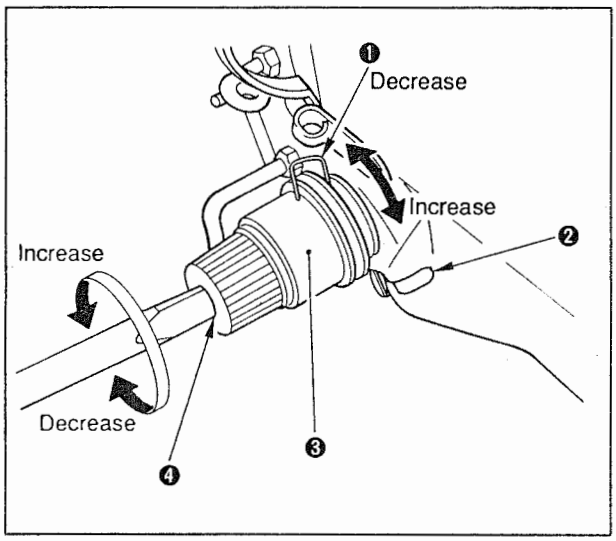
wise to increase the length of the thread which will remain on the needle after thread trimming, or counterclockwise to decrease it. Minimize the length of thread remaining after thread trimming as long as the thread does not slip off the needle eyelet. Turn thread tension controller No. 2 ❷ clockwise to increase the needle thread tension, or counterclockwise to decrease it.

2) Adjusting the bobbin thread tension
Turn thread tension adjusting screw ❸ clockwise to increase the bobbin thread tension, or counterclockwise to decrease it.

3) Adjusting the idling prevention spring
Bend idling prevention spring ❹ mounted inside the bobbin case so as to prevent the bobbin from running idle. The standard pressure provided by the idling prevention spring is 7 to 12 g.

※ If the bobbin frequently runs idle, adjust the idling prevention spring so that it applies a higher pressure onto the bobbin.

8. Adjusting the thread take-up spring



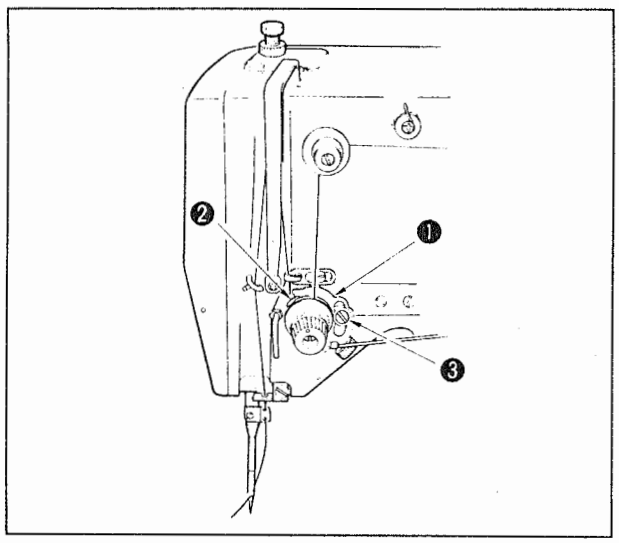
The normal stroke of thread take-up spring ❶ is 12 to 15 mm, and the tension at the start of its thread drawing action is 15 to 80 g.

1) Adjusting the stroke
Loosen screw ❷ , and turn thread tension controller assembly ❸ in whole clockwise to increase the stroke of the thread take-up spring or counterclockwise to decrease it.

2) Adjusting the tension
Fit a slitted screwdriver in the groove on tension post ❹ , and turn it clockwise to increase the tension, or counterclockwise to decrease it.

(Caution) If you use a synthetic thread for sewing, decrease the tension of the thread take-up spring. (Approx. 15 g)

9. Adjusting the thread breakage detecting plate

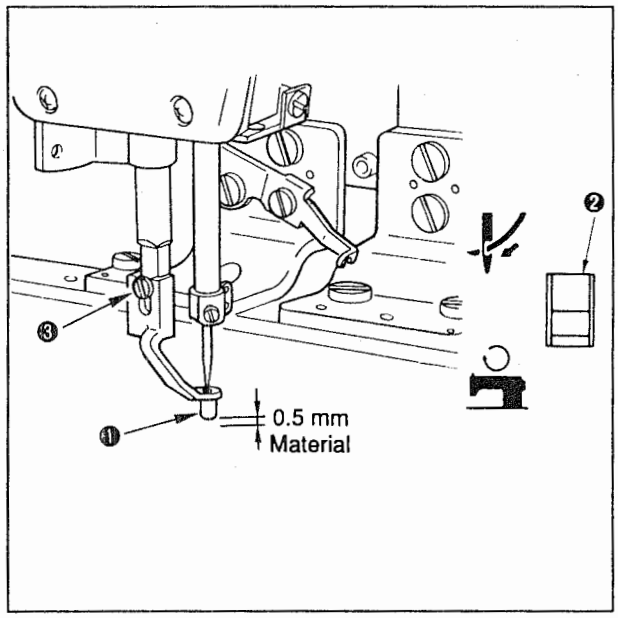


1) When the thread thread take-up spring is not threaded, adjust so that thread breakage detecting plate ❶ always comes in contact with thread take-up spring ❷ . (Deflection of the spring is approximately 0.5 mm.)

2) When you have changed the stroke of thread take-up spring ❷ , be sure to loosen screw ❸ and re-adjust thread breakage detecting plate ❶ .

(Caution) Be careful not to allow thread breakage detecting plate ❶ to come in contact with any component other than thread take-up spring ❷ .

10. Adjusting the height of the intermediate presser

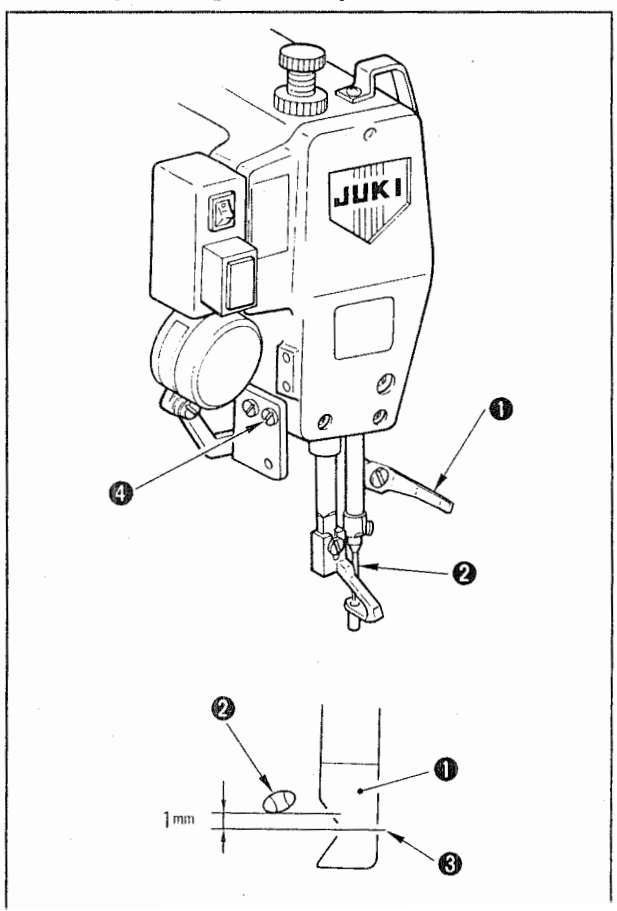


1) Confirm first that the center of the hole in intermediate presser ❶ meets the center of the needle.
2) Set needle threading switch ❷ on the control box to the [ ] side while the Ready indicator lamp is ON, and the feeding frame and intermediate presser will come down.
   In this state, turn the pulley by hand to make the needle come down to the lowest position of its stroke (lowest dead point). Now, loosen screw ❸ and adjust so that a clearance of 0.5 mm is provided between the bottom end of intermediate presser and the material. (Remember that the aforementioned 0.5 mm clearance is equivalent to the thickness of thread to be used.)
3) After the adjustment, set needle threading switch ❷ to the [ ] side, and the sewing machine will rotate to return to the needle-up stop position.
   (When using the intermediate presser, thickness of the material should not exceed 5 mm.)

※ When using a floppy material, adjust so that the bottom end of the intermediate presser closely fit the material (clearance : 0 mm) when it is lowered.

※※When using a material such as quilted one that is likely to cause stitch skipping at the start of sewing, lower the intermediate presser until it rests on the top surface of the throat plate so as to effectively prevent the trouble.

11. Adjusting the wiper



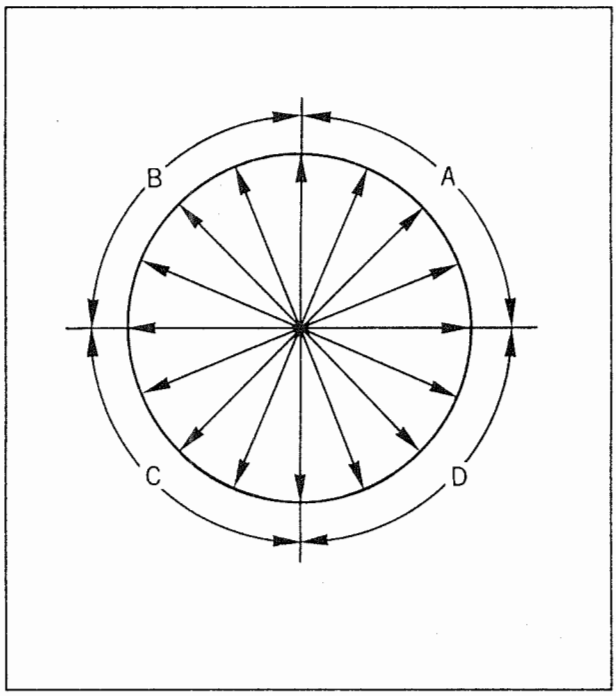
Longitudinal position of the wiper

Adjust the longitudinal position of wiper ❶ and needle ❷ so that the front end of the needle is spaced approximately 1 mm from center ❸ of the V-shaped groove on the top of the wiper. Then, tighten screw ❹ .

Refer to the Instruction Manual for the AMS-215C for other adjustments.

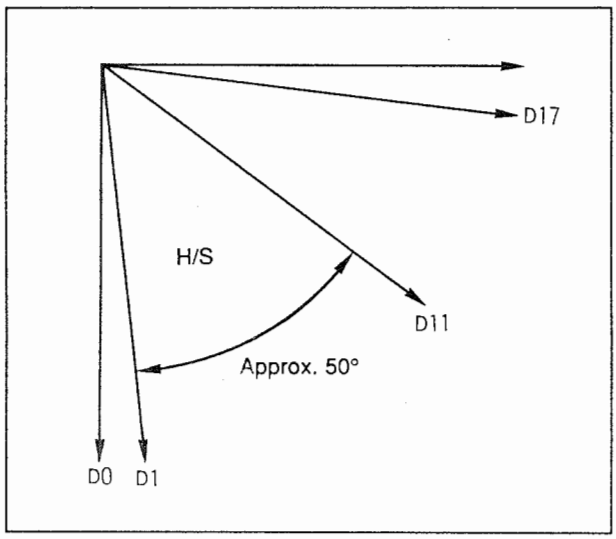
to one-third (by our comparison) of the conventional one. In order to make the most out of the superb performance of the machine, it is necessary to understand the area in which hitch stitches are made and create the best-suited sewing pattern.

1. Hitch stitching area



Now, investigate first the stitching direction of the sewing machine that makes the machine produce hitch stitches.

1) In case of radial-direction stitching, as illustrated in the figure, from the center of a circle toward the periphery, hitch stitches are made in area D in the figure. As long as the machine sews in any direction contained in area A, B or C, it produces perfect stitches.



2) Hitch stitches appear when the sewing direction is D. So, it is necessary to investigate area D in detail. Specify sewing direction within area D in every 5°. The respective sewing directions are called D0 through D17. (See the figure on the left.)
In this case, hitch stitches are made in area ranging from D1 through D11. (Approximately 50°)

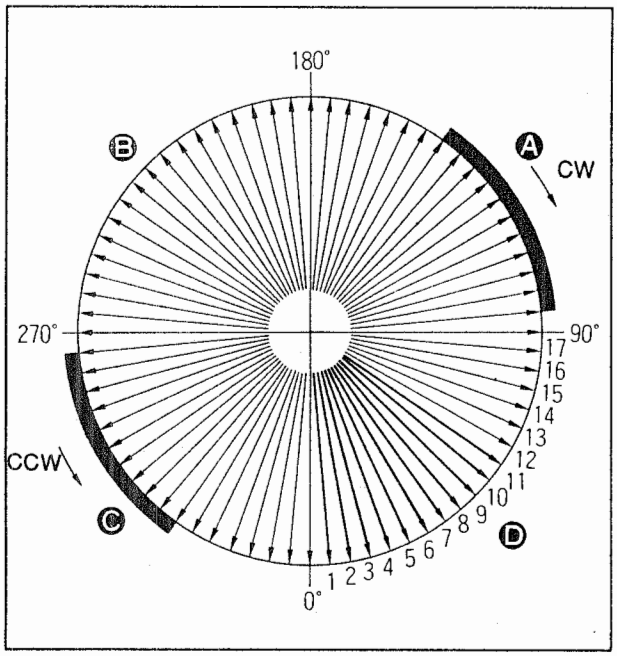
2. Check sheet and directions for use

Now, an explanation is given to show how to investigate the direction of the stitches with a check sheet. At the end of this Instruction Manual, a hitch stitch area check sheet (hereinafter called "check sheet") and sewing area sheet (hereinafter called "area sheet") are provided. Make copies of the check sheet and area sheet (the use of an OHP film or the like will help you).

(Hitch stitch area check sheet)

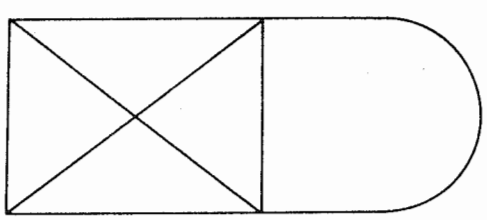
(Explanation of the check sheet)
Radial lines of arrows made at 5° intervals and a circle which surrounding the lines are drawn on the check sheet. The four 90° portions divided in terms of X-Y directions are respectively called as follows:

0° to 90° → Area D
90° to 180° → Area A
180° to 270° → Area B
270° to 0° (360°) → Area C

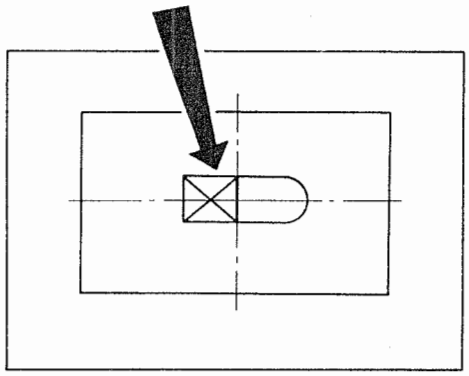


1) If the machine sews the circle radially from the center of the circle in all directions, i.e., 360° while specifying the sewing direction at 5° intervals, the seam shown in the figure are finished. In this case, hitch stitches are produced in the range of approximately 50° from D1 to D11. On the other hand, perfect stitches are made in the sewing directions A, B, C, D0 and D12 to D17.
This drawing is called "hitch stitch check sheet." The sewing directions D1 through D11 are called "hitch stitch area," and the other sewing directions are called "perfect stitch area." (Refer to the "How to use the hitch stitch area check sheet" on page 20.)

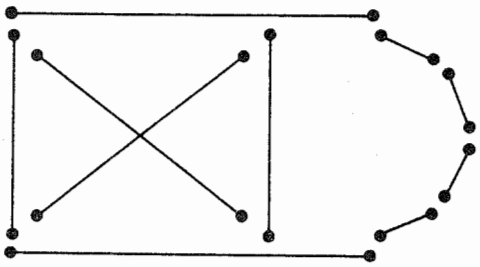
(Caution) The bold-faced arcs shown on the periphery indicate the hitch stitch appearing areas when sewing proceeds by changing the directions of stitches in clockwise or counterclockwise order.



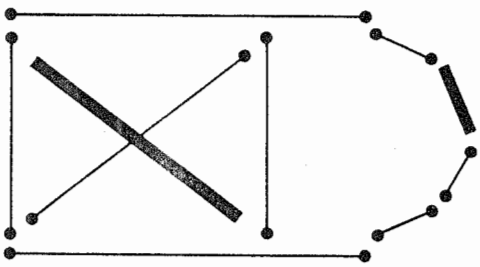
example.)

② 

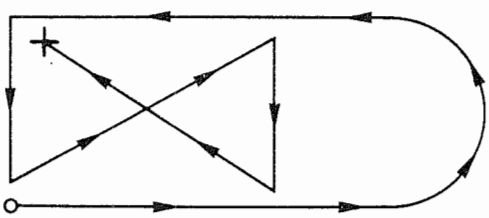
② Put and secure the sewing pattern on the area sheet (provided at the end of this volume).
(At this time, check that the sewing pattern does not exceed the specified sewing area.)
Bring the pattern to the sewing position in terms of the X-Y direction on the area sheet.

③ 

③ Divide the sewing pattern into appropriate portions.
- Take each straight stitching portion as one element.
- Divide the curve stitching portion into several straight stitching portions.

④ 

④ Put the check sheet (provided at the end of this volume) on the pattern so as to find the portion contained in area D (D1 to D11 in particular) (by comparison).
(At this time, take care not to allow the X-Y direction on the area sheet to move off the X-Y direction on the check sheet.) In this stage, it is enough for you to check the inclination of the respective element lines. (The bold-faced element lines shown in the figure on the left are included in area D.) Change the stitching direction of the aforementioned bold-faced element lines so that they are included in area B, and the elements can be sewn with perfect stitches.

⑤ 

⑤ Determine the directions of stitches. In regard of this example, all stitches of the pattern can be sewn with perfect stitches since no element is contained in area D by sewing the pattern as shown in the figure on the left.

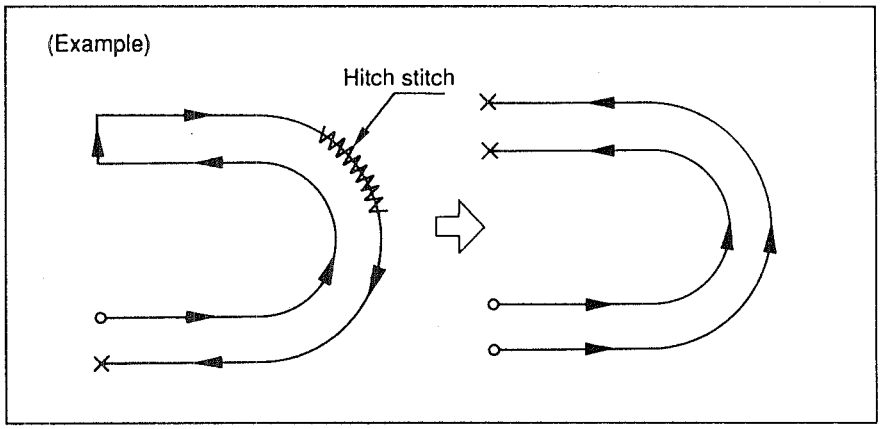
※ This completes the explanation of the basic directions of use of the check sheet.
We hope you to make the best out of this sewing machine while using the aforementioned information in combination with the check sheet and know-how for pattern creation (on page 11).

3. Know-how for pattern creation

To create a sewing pattern, it is necessary to work out some idea to effectively use the perfect stitching area.
The leading measures are as follows :

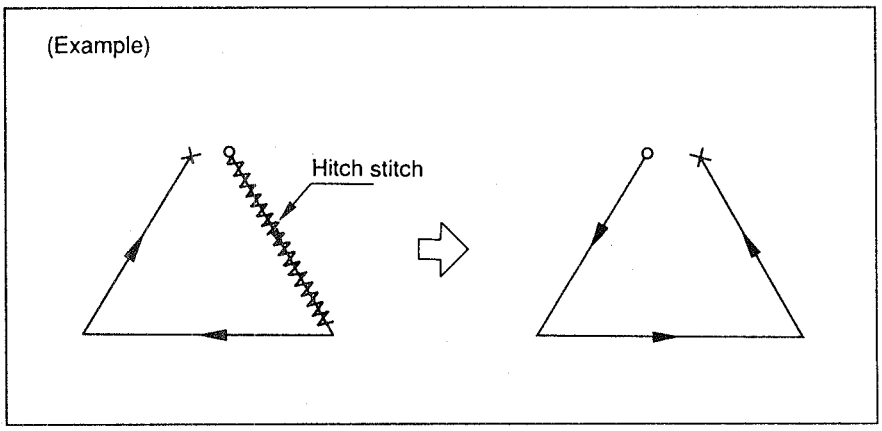
① Thread trimming and jump are combined.
② Directions of stitches are changed.
③ Setting inclination of the sewing pattern is changed.

(1) Thread trimming and jump are combined.



Combine thread trimming and jump on a sewing pattern.
This may enable all stitches of the pattern to be sewn with perfect stitches.

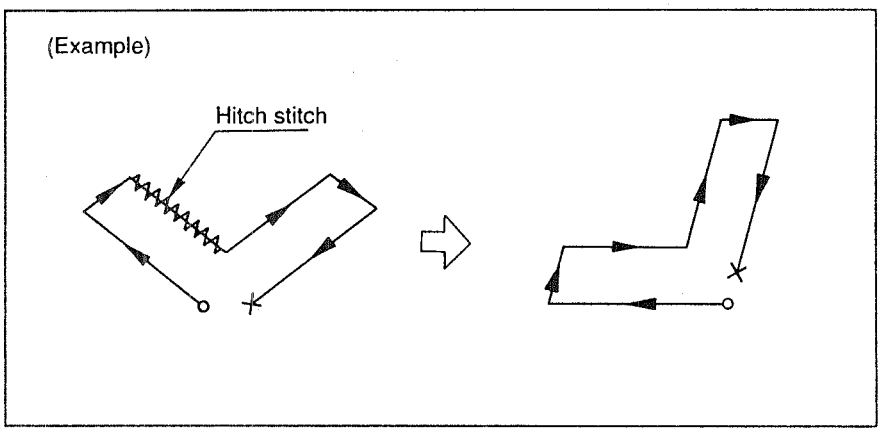
(2) Directions of stitches are changed.



Hitch stitches may be prevented and all stitches are sewn with perfect stitches only by changing the directions of stitches.

(Caution) If stitch skipping occurs at the start of sewing, set the direction of stitches from left to right.

(3) Setting inclination of the sewing pattern is changed.



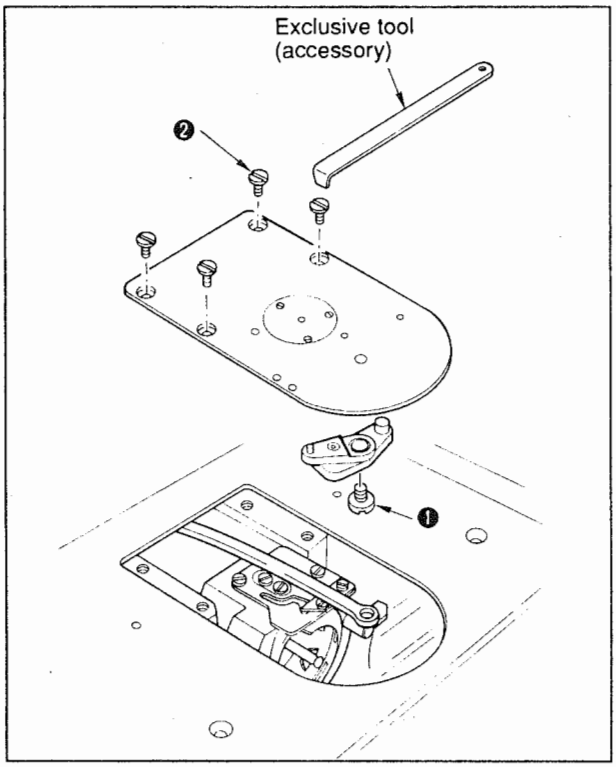
For a sewing pattern containing coming-and-going stitches, changing the direction of stitches cannot prevent hitch stitches. Even in the aforementioned case, all stitches may be sewn with perfect stitches by changing the pattern setting inclination appropriately.

Example: ○——— Start of sewing
———× End of sewing (Thread trimming)

Adjustment of hook timing

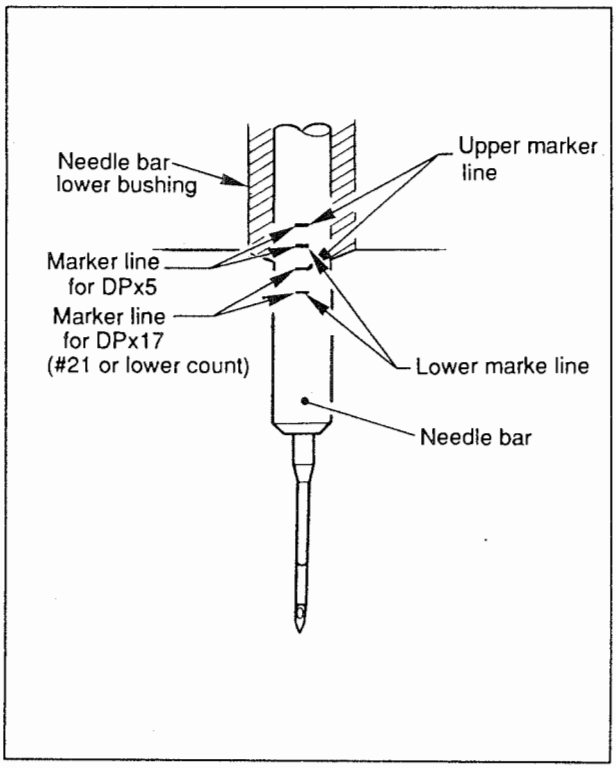
The adjustment of hook timing covers a series of jobs that are performed to adjust the timing and relative positions of major components (needle bar, needle, shuttle body, shuttle race, shuttle driver, shuttle race cap, etc.) to the standard adjustment values.

—— Preparation (Remove the throat plate.) ——



Remove thread trimming lever clamping screw ❶. Then, remove four screws ❷ . (Remove the intermediate presser and feeding frame for easier work.)

—— Marker lines engraved on the needle bar ——



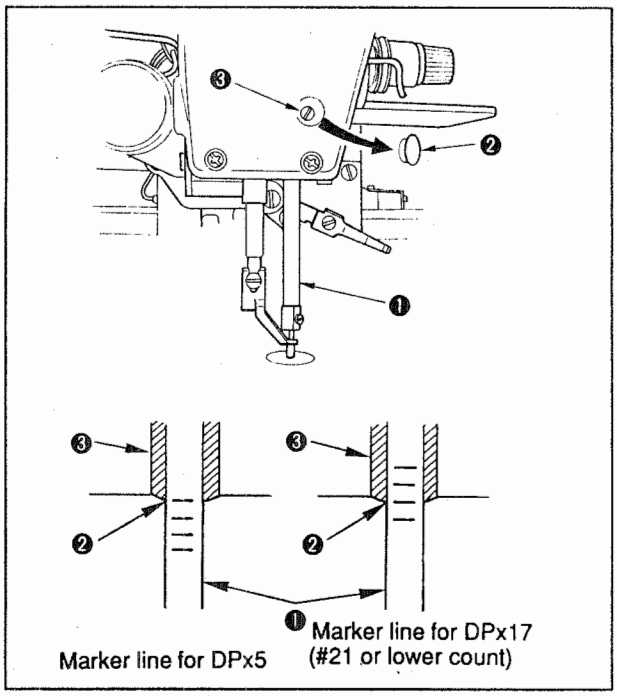
The needle has two pairs of engraved marker lines (one for DPx5 and the other for DPx17) in accordance with the types of needles to be used.
The marker lines are classified as described below in terms of the specification of the machine head.

- Marker lines for DPx5:
  The upper two lines are used by the standard machine head (specification : S).
- Marker line for DPx17 (#21 or lower count):
  The lower two marker lines are used by the machine head for heavy-weight materials (specification : H).

Two pairs of marker lines are engraved on the needle bar. The lower ones of the respective pairs of marker lines are called lower marker lines and the upper ones are called upper marker lines.

(Caution) In case of the machine which use the "pneumatic feeding frame, double-stepped stroke, inverting (AIR)" (specification : T), use the marker lines for DPx17 regardless of the specification of the machine head.

1. Adjusting the height of the needle bar (Adjustment using the upper marker lines)

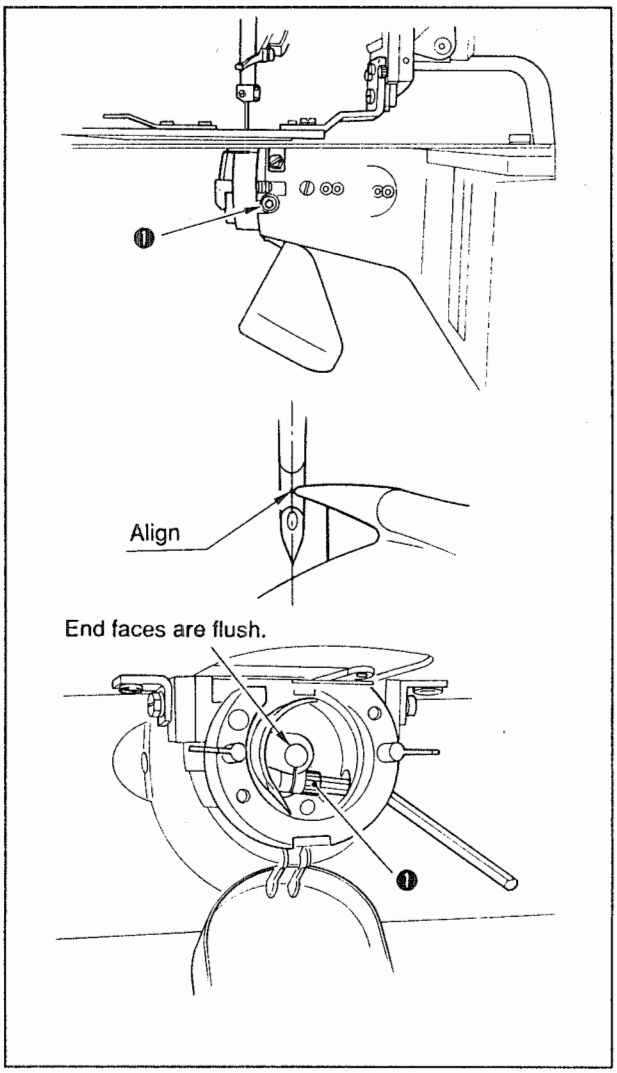


Lower the needle bar ❶ to the lowest position of its stroke. Loosen the needle bar connection setscrew ❸ . Then, align the upper marker line engraved on the needle bar with the bottom end of the lower bushing and fix the needle bar at that position (height). Be sure to loosen needle bar connection setscrew ❸ after having removed rubber cap ❷ . Adjustment of the height of the needle bar is the basis of the other adjustments of hook timing. The marker lines (timing marks) engraved on the needle bar are adjusted to the type of needle to be used.

(Caution) Be sure to turn the pulley after you have adjusted the needle bar height to either upper marker line so as to confirm that no irregular load is applied to the pulley.

2. Adjusting the needle-to-hook relation

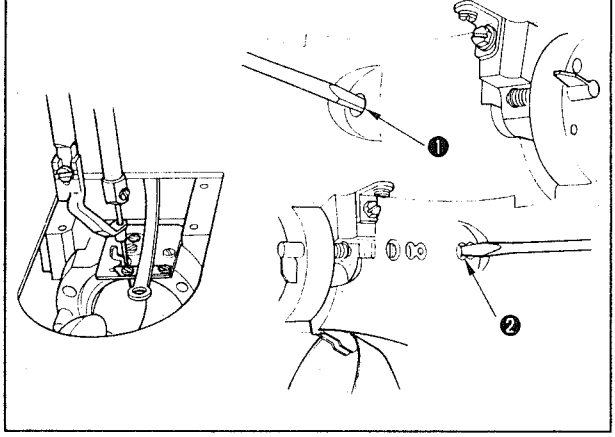
(1) Adjusting the point at which the needle and the hook are aligned (Adjustment using the lower marker lines)



1) Turn the pulley by hand to lower needle bar to the lowest position of its stroke and go up. At this time, align the lower marker line engraved on the needle bar with the bottom end of the needle bar lower bushing. (Refer to "Marker lines engraved on the needle bar" on page 12 for the explanation of the lower marker lines.)
2) In the state described in 1), adjust the point at which the needle meets the hook. Loosen screw ❶ in the driver (hexagon socket setscrew, opposite side 4 mm). Hold the shuttle body by hand and turn it clockwise (in the direction toward which the shuttle body comes in contact with the lower side of the driver) adjust so that the center of the needle aligns with the blade point of the shuttle body. Then, temporarily tighten screw ❶ .

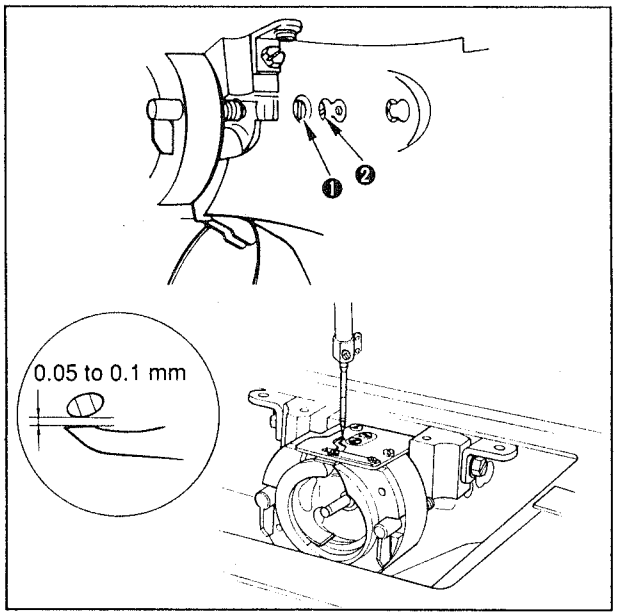
(Caution) 1. Be careful not to allow the hook driving shaft (pulley) to turn.
2. Be sure to adjust so that the end face of the driver is flush with the hook driving shaft.

3) Turn the pulley clockwise by hand until the lower marker line engraved on the needle bar is aligned with the bottom end of the needle bar lower bushing. Now, confirm that the aforementioned adjustment is re-produced.
After the confirmation, fix the driver by tightening screw ❶ .



screw ❶ in the hook driving shaft front bushing when the bottom end of the needle bar lower bushing is aligned with the lower marker line on the needle bar. Then, turn the hook driving shaft front bushing adjusting shaft ❷ to adjust so that a 0 mm clearance is provided between the needle and the rear end (needle guarding plate) of the driver. (As a guide, press the needle when it is slightly spaced from the driver to gradually reduce the space while checking the motion of the needle. At this time, a 0 mm clearance is obtained when the needle will not go any further.) After the adjustment, tighten the screw ❶ in the hook driving shaft front bushing.

(3) Adjusting the clearance at the blade point of the shuttle body (Adjusting the position of the shuttle race)



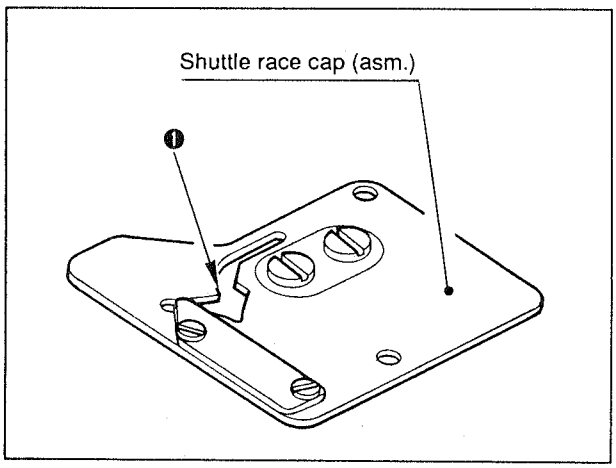
Loosen screw ❶ in the shuttle race. Turn shuttle race adjusting shaft ❷ to adjust the longitudinal position of the shuttle race so that a clearance of 0.05 to 0.1 mm is provided between the needle and the blade point of the shuttle body. After the shuttle race has been properly positioned in terms of the longitudinal direction, adjust the direction of rotation of the shuttle race by hand so that the top surface of the shuttle race is leveled. After the adjustment, tighten screw ❶ in the shuttle race.

(Caution) If the shuttle body has burrs or scratches, sewing troubles may result.

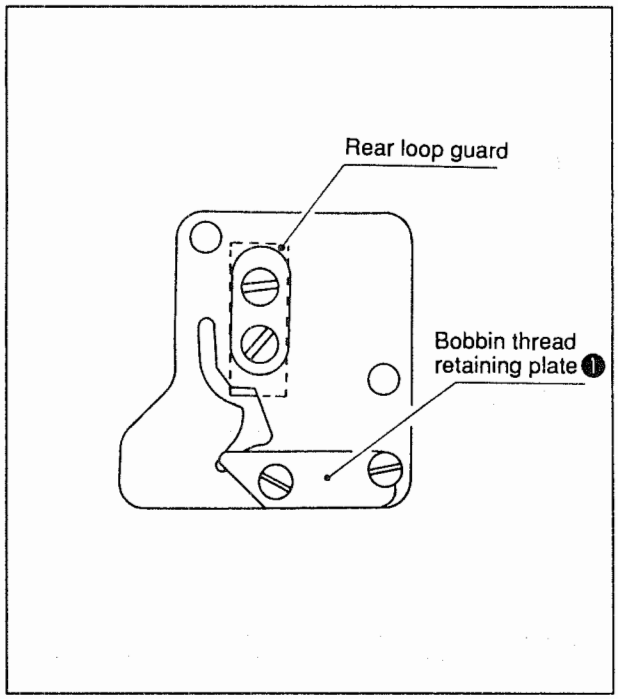
(4) Adjusting the shuttle race cap

• Outline

The shuttle race cap assembly is an important part to control the needle and bobbin threads during sewing. When adjusting the shuttle race cap assembly, the components and functions described below are to be considered in particular.



1) Thread separating corner
Corner portion ❶ in the figure is called thread separating corner. It is used as the reference when positioning the shuttle race cap.

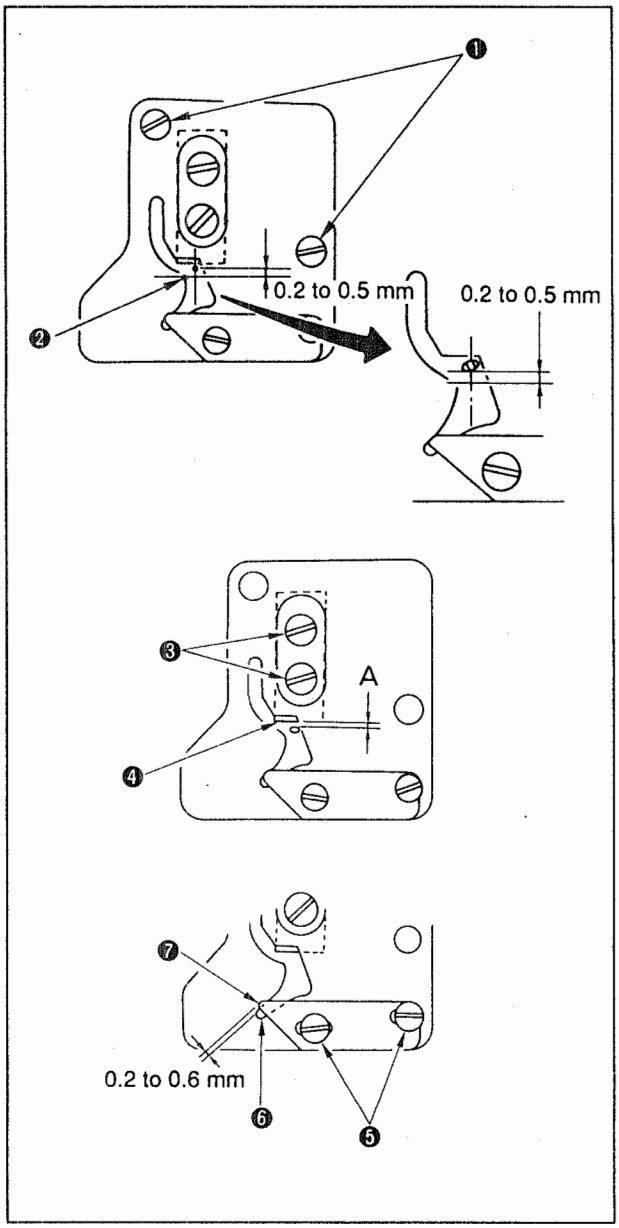


2) Rear loop guard
When the needle ascends after having entered the material, the needle thread makes a loop. The captioned part works to regulate the loop shape and prevent the loop from being deformed. Adjust the rear loop guard, in terms of the longitudinal direction, in accordance with the thickness of the needle or the type of the thread to be used so as to allow the guard to work most effectively.

Rear loops

The rear loops are the loops located on the opposite side from the threading side of the blade point of the shuttle.

3) Bobbin thread retaining plate
Bobbin thread retaining plate ❶ works to retain the end of bobbin thread, after thread trimming, in the bobbin thread trimming groove on the shuttle race cap.



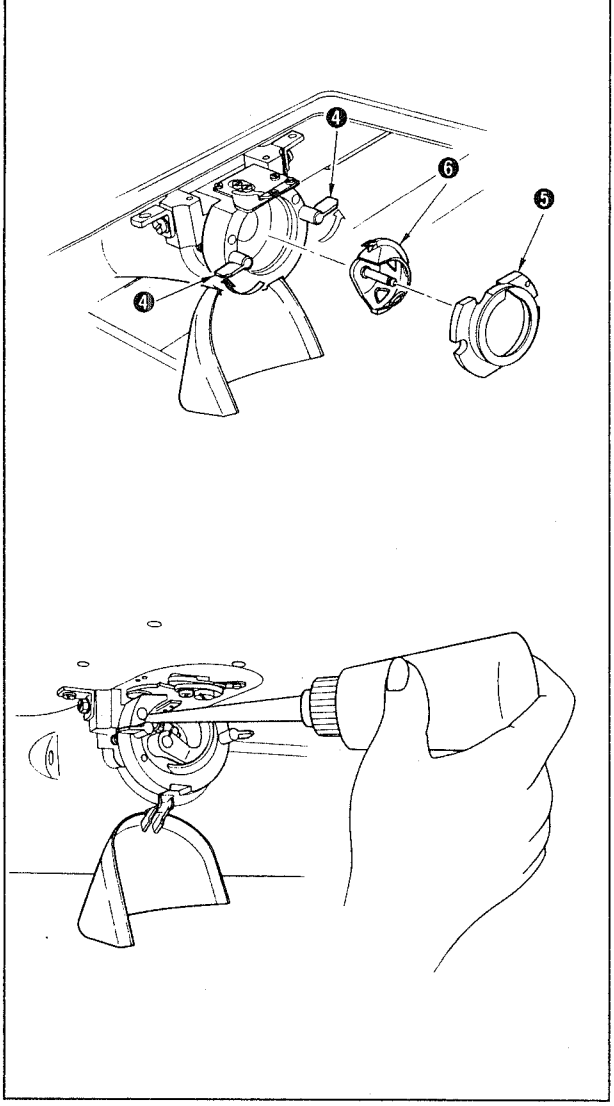
• Adjustment

1) Adjusting the needle entry point
Loosen two screws ❶ in the shuttle race cap. When using thread separating corner ❷ as the reference, the needle entry point should be adjusted in the lateral direction so that it is equidistantly spaced from the corner. For the longitudinal direction, adjust the needle entry point so that the end face of the needle is inwardly spaced 0.2 to 0.5 mm from the corner. Then, securely tighten two screws ❶ .

2) Adjusting the rear loop guard
Loosen two screws ❸ in the rear loop guard. As the standard adjustment, adjust so that a 0.6 mm clearance A is provided between the rear end face of the needle and rear loop guarding plane ❹ . When sewing a heavy-weight material, the standard clearance between the above-stated two portions is slightly wider, i.e., 0.8 mm. After the adjustment, tighten screws ❸ .

※ If the loops are likely to tilt or any sewing trouble is caused by falling-flat rear loops, reduce the clearance appropriately.

3) Adjusting the bobbin thread retaining plate
Loosen two screws ❺ in the bobbin thread retaining plate. As the standard adjustment, groove ❻ on the shuttle race cap overlaps top end ❼ of the bobbin thread retaining plate by 0.2 to 0.6 mm. Increase the overlapping amount of the bobbin thread retaining plate and the groove for a thinner thread, or decrease it for a thicker thread. After the adjustment, tighten screws ❺ .



(page 5) for how to remove the bobbin case.

Removing the bobbin case opening lever and the shuttle body

Open bobbin case opening lever latches ❹ to the right and left. Then, remove bobbin case opening lever ❺ .

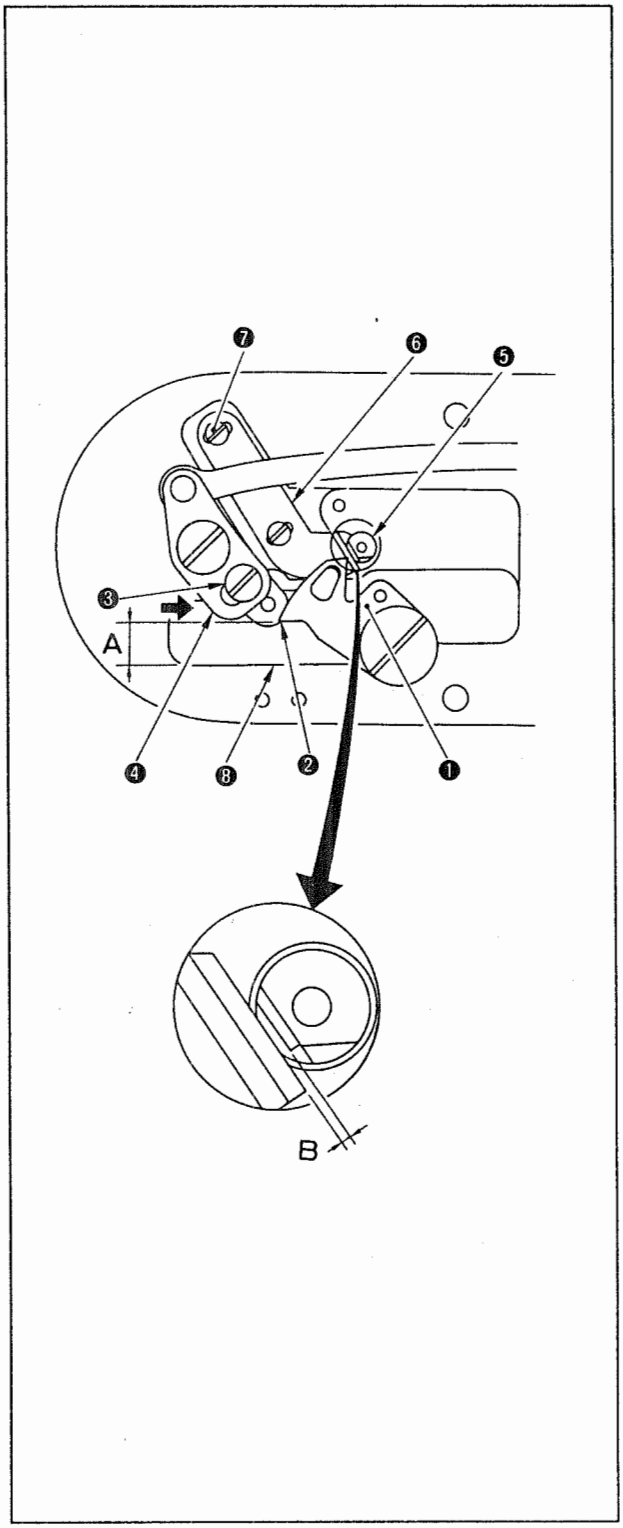
(Caution) At this time, take care not to drop shuttle body ❻ .

Cleaning the hook (shuttle race)

1) Remove thread waste and dust gathering inside the shuttle race and wipe off stains with a piece of cloth or the like. Confirm, in particular, that no thread waste or the like is left inside the shuttle race.
2) After cleaning, apply a few drops of the lubricating oil to the shuttle race.

(Caution) If thread waste and dust accumulate around the hook, sewing trouble will result. So, it is necessary to clean the hook components everyday after you have finished the work.

9. Adjusting the moving knife and counter knife



1) To adjust the initial position of the moving knife, when the machine stops with its needle up, loosen adjustment screw ❸ and adjust the clearance (dimension A) between threading portion ❷ of moving knife ❶ and throat plate slit ❽ . Perform the aforementioned adjustment while keeping thread trimming lever ❹ held pressed forward (in the direction of the arrow).
2) After the adjustment, turn the pulley by hand to actuate the thread trimmer so as to confirm the initial position of the moving knife.
3) Loosen two screws ❼ and adjust the clearance (dimension B) between needle hole guide ❺ and counter knife ❻ .

Portion to be adjusted / Specification	A	B
Standard (S)	5 mm	0.8
For heavy-weight materials (H)		0.9

(Caution) If the moving knife has scratches or the counter knife is improperly position, thread trimming troubles will occur.

OF SEWING

	Phenomenon	Cause	Corrective measure	Page
At the start of sewing	• The thread end trails too long on the wrong side of the material. • The needle thread end is stained. • Stitch skipping frequently occurs at the start of sewing.	• Since the shuttle race cap fails to completely separate the threads, the needle thread end is drawn into the race surface.	• Adjust the position of the shuttle race cap properly.	14~15
			• Grind the thread passing plate smoothly.	14
		• Thread fails to smoothly move along the shuttle body.	• Replace the shuttle body with a new one.	14
		• The loops tilt and stitches are not properly formed. (The sewing pattern is not proper.)	• Use a 2-holed thread guide.	3
			• Change the direction of stitches at the start of sewing from leftward to rightward.	11
			• Reduce the inclination (15°) of the needle.	3
		• The overlapping amount of the bobbin thread retaining plate and the groove on the shuttle race cap is smaller than the specified value.	• Increase the overlapping amount of the bobbin thread retaining plate and the groove on the shuttle race cap.	15
		• The rear loop guard fails to work.	• Decrease the clearance provided between the rear loop guard and the needle.	15
		• The length of thread remaining on the needle is too long.	• Adjust the thread tension controller No. 2 so as to minimize the length of needle thread remaining on the needle.	6
	• Needle thread hitches (Needle thread tension is larger than the bobbin thread tension) at the start of sewing.	• The idling prevention spring does not work effectively.	• Adjust the idling prevention spring so that it works more effectively.	6
		• The adjustment value related to the initial position of the moving knife is larger than the predetermined value.	• Decrease the adjustment value related to the initial position of the moving knife.	7
During sewing	• Hitch stitches are produced. (Widened) (Particularly in case of a rectangular sewing pattern.) • Uniform stitches are not obtained. • Irregular stitches are made.	• Inclination (15°) of the needle is smaller than the specified value.	• Increase the inclination (15) of the needle.	3
		• The feeding frame fails to secure the material, thereby allowing the material to flop.	• Stabilize the feeding frame so as to prevent the material from flopping.	7
		• The bobbin thread tension is insufficient and the direction in which the bobbin thread is guided is not uniform.	• Increase the bobbin thread tension.	6
		• The center of the intermediate presser does not meet the center of the needle.	• Align the center of the intermediate presser with the center of the needle.	7
		• The thread untwists extraordinarily, which prevents the needle thread from being fed evenly.	• Use a silicon oil lubricating unit.	4
		• The shuttle race cap is not properly positioned.	• Adjust the position of the shuttle race cap properly.	14~15
		• The intermediate presser is installed at a position higher than the specified value.	• Adjust the height of the intermediate presser to 0 to 0.5 mm.	7
		• The needle eyelet and the hole in the needle hole guide are too small for the specification of the sewing machine.	• Replace the needle and needle hole guide with appropriate ones.	3
		• A 2-holed thread guide is used.	• Replace the 2-holed thread guide with a 1-holed thread guide.	3
		• The thread take-up spring does not work sufficiently.	• Increase the tension of the thread take-up spring and also increase its stroke.	6
		• The tension of the needle and bobbin threads is lower than the specified value in whole.	• Set the thread tension to an higher value.	6
At the time of thread trimming	• The thread trimmer fails to cut the thread. • The length of thread remaining after thread trimming is not uniform. • The thread trimmer cuts the thread as if the thread is torn off.	• Initial position of the moving knife is not correct.	• Properly adjust the initial position of the moving knife.	17
		• The adjustment value related to the initial position of the moving knife is smaller than the predetermined one.	• Increase the adjustment value related to the initial position of the moving knife.	17
		• The adjustment value related to the initial position of the moving knife is larger than the predetermined one.	• Decrease the adjustment value related to the initial position of the moving knife.	17
		• The moving knife has scratches.	• Buff up the moving knife or replace it with a new one.	17
		• The blade of the counter knife is positioned too high.	• Bend the counter knife to correct the blade position or replace it with	17
		• The knife blade is dull.	• Re-sharpen the blade or replace it with a new one.	17

※ Refer to the Instruction Manual for the AMS-215C for troubles, causes and corrective measures other than those listed above.

IX. OPTIONS

As optional parts for the P type of the AMS-215 model of sewing machine, the exclusive needle-hole guides which are different in part No. are prepared.

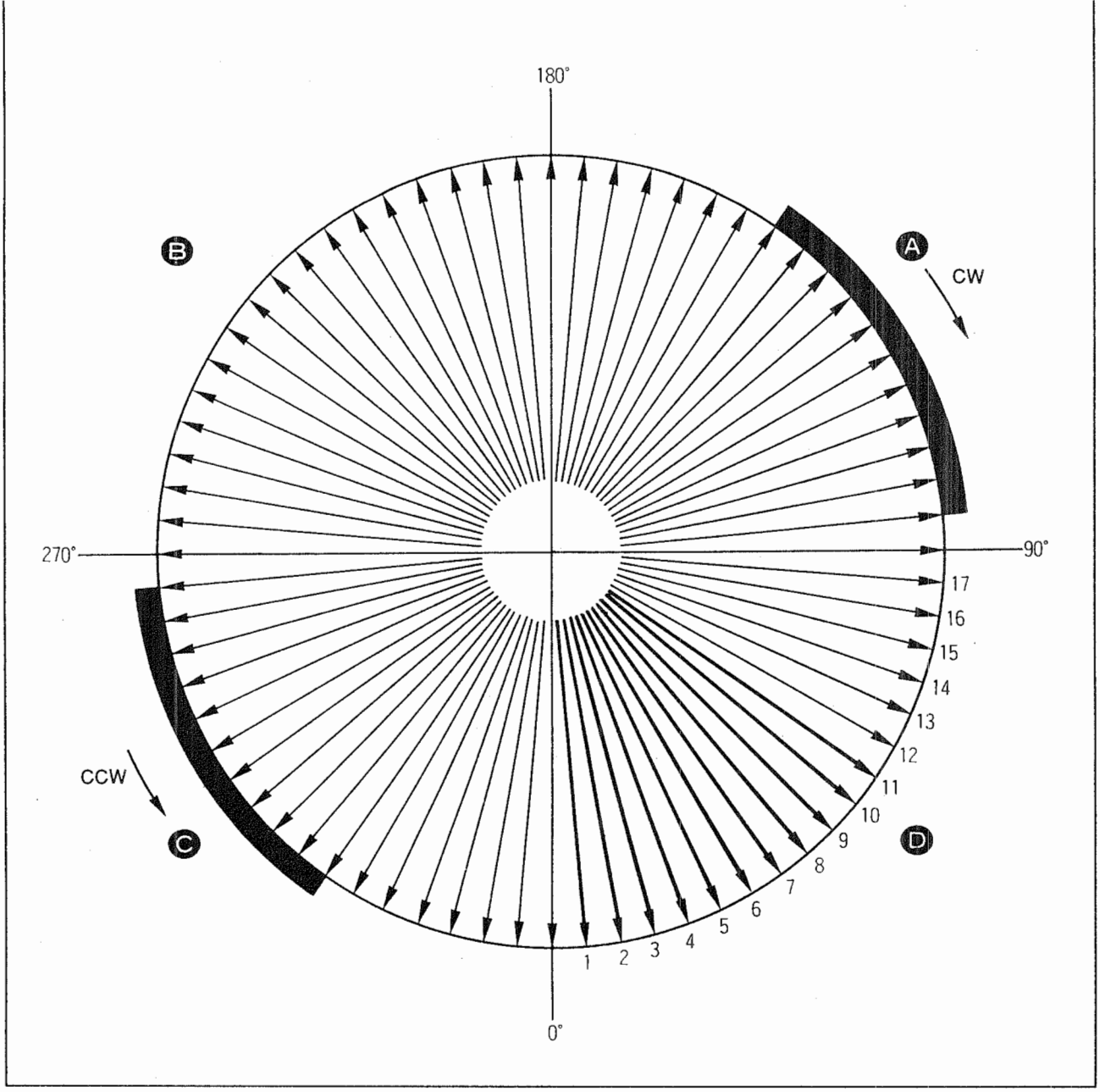
Needle hole guide	Part No.	Needle hole size	Remarks
Needle hole guide (A)	B2426 215 P0A	ø 1.6	For standard materials (S type)
Needle hole guide (B)	B2426 215 P0B	ø 2.0	For heavy-weight materials (H type)
Needle hole guide (C)	B2426 215 P0C	ø 2.4	
Needle hole guide (D)	B2426 215 P0D	ø 3.0	
Needle hole guide (E)	B2426 215 P0E	ø 3.0 with a counterbore	

XI. SPECIFICATIONS

The below-stated specifications of the AMS-215P are different from the AMS-215C.

Hook : Semi-rotary DP large shuttle
Bobbin case : Bobbin case for semi-rotary DP large shuttle (1.8 -fold)
Bobbin : Bobbin for large shuttle
Classification of the specifications of the machine by the model name
Classification by sewing material : Standard (S)
For heavy-weight materials (H)
Specification by feeding frame : Standard (S) Pneumatic feeding frame
Pneumatic, double-stepped stroke feeding frame (B)
Pneumatic, double-stepped stroke, inverting feeding frame (AIR) (T)
Pneumatic, double-stepped stroke, separately driven feeding frame (L)

(Caution) Please understand that the specifications of the current AMS-215C cannot be modified to those of the AMS-215P.

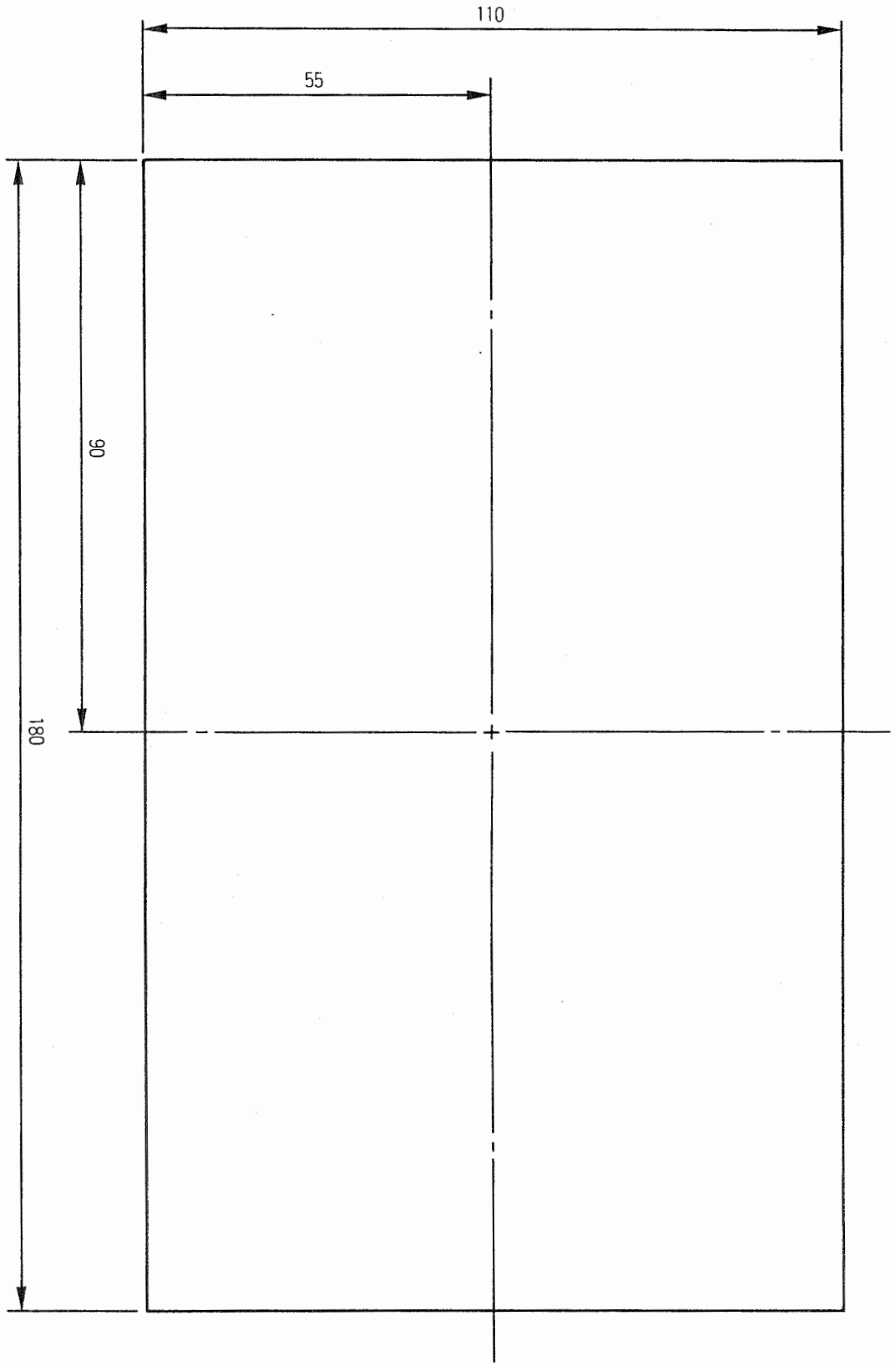


How to use the hitch stitch area check sheet

1. Make copies of the check sheet given above. (The use of OHP film or the like will be helpful.)
2. Divide a sewing pattern in accordance with the steps of procedure shown on page 10.
3. Compare the sewing pattern with the check sheet (in case of OHP film, put it on the sewing pattern) and check for a hitch stitching area.

Sewing area sheet for the AMS-215P

Sewing area sheet



(Unit: mm)

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Please do not hesitate to contact our distributors or agents in your area for further information when necessary.

* The description covered in this instruction manual is subject to change for improvement of the commodity without notice.

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