

SERVICING MANUAL

DE 5018

CONTENTS

WHAT TO DO WHEN	1 to 3
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SERVICE ACCESS

FACE COVER	4
TOP COVER	4
BELT COVER	5
BASE	6
BED COVER	6
FRONT COVER	7

MECHANICAL ADJUSTMENT

TOP TENSION	8
PRESSER BAR HEIGHT AND ALIGNMENT	9
STRAIGHT STITCHING	10
NEEDLE SWING	11
NEEDLE POSITION	12
DISTRIBUTION OF NEEDLE SWING	13
ZIGZAG STOPPER	14
NEEDLE CLEARANCE TO ROTARY HOOK	15
BACKLASH (LOWER SHAFT GEAR)	16
NEEDLE BAR HEIGHT	17
NEEDLE TO ROTARY HOOK TIMING	18
FEED DOG HEIGHT	19
STRETCH STITCH BALANCE	20
BUTTONHOLE STITCH BALANCE	21
ZERO FEEDING	22
BUTTONHOLE FUNCTION (1)	23
BUTTONHOLE FUNCTION (2)	24
MOTOR BELT TENSION	25

PART REMOVAL AND REPLACEMENT

THREADER PLATE	26
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WIRING OF MACHINE SOCKET	27
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WHAT TO DO WHEN

CONDITION	CAUSE	HOW TO FIX	REFERENCE
1. SKIPPING STITCHES	1. NEEDLE IS NOT INSERTED PROPERLY. 2. NEEDLE IS BENT OR WORN. 3. INCORRECTLY THREADED. 4. NEEDLE OR THREAD ARE INAPPROPRIATE FOR FABRIC BEING SEWN. 5. SEWING ON STRETCH FABRIC. 6. INAPPROPRIATE NEEDLE BAR HEIGHT. 7. INAPPROPRIATE NEEDLE TO HOOK TIMING. 8. INAPPROPRIATE NEEDLE TO HOOK CLEARANCE.	INSERT THE NEEDLE PROPERLY. CHANGE THE NEEDLE. RE-THREAD. USE THE RECOMMENDED SEWING NEEDLE AND THREAD. USE A SIZE 11 BLUE TIP NEEDLE. SEE MECHANICAL ADJUSTMENT "NEEDLE BAR HEIGHT". SEE MECHANICAL ADJUSTMENT "NEEDLE TO ROTARY HOOK TIMING". SEE MECHANICAL ADJUSTMENT "NEEDLE CLEARANCE TO ROTARY HOOK".	 P.17 P.18 P.15
2. FABRIC NOT MOVING	1. INCORRECT FEED DOG HEIGHT. 2. THREAD ON BOTTOM SIDE OF FABRIC IS JAMMED UP. 3. FEED DOG TEETH ARE WORN.	SEE MECHANICAL ADJUSTMENT "FEED DOG HEIGHT". MAKE SURE TO BRING BOTH NEEDLE AND BOBBIN THREAD UNDER THE FOOT WHEN STARTING SEWING. CHANGE THE FEED DOG.	P.19

CONDITION	CAUSE	HOW TO FIX	REFERENCE
3. BREAKING UPPER THREAD	1. INITIAL SEWING SPEED IS TOO FAST. 2. THREAD PATH IS INCORRECT. 3. NEEDLE IS BENT OR DULL. 4. UPPER THREAD TENSION IS TOO STRONG. 5. NEEDLE SIZE IS INAPPROPRIATE FOR FABRIC. 6. NEEDLE EYE IS WORN. 7. NEEDLE HOLE IN NEEDLE PLATE IS WORN OR BURRED.	START WITH MEDIUM SPEED. USE THE PROPER THREAD PATH. REPLACE WITH A NEW NEEDLE. ADJUST UPPER THREAD TENSION CORRECTLY. USE APPROPRIATE NEEDLE AND THREAD FOR FABRIC IN USE. CHANGE THE NEEDLE. REPAIR THE HOLE OR REPLACE THE NEEDLE PLATE.	P.8
4. BREAKING BOBBIN THREAD	1. INCORRECTLY THREADED BOBBIN HOLDER. 2. TOO MUCH THREAD IS AROUND ON THE BOBBIN. 3. LINT IS STUCK INSIDE THE BOBBIN HOLDER. 4. THREAD QUALITY IS TOO LOW. 5. THREAD IS JAMMING AROUND THE BOBBIN.	THREAD BOBBIN HOLDER CORRECTLY. ADJUST THE POSITION OF BOBBIN WINDER STOPPER. CLEAN THE BOBBIN HOLDER. CHANGE TO A HIGH QUALITY SEWING THREAD. CLEAR OUT THE JAMMING THREAD.	
5. NEEDLE BREAKS	1. NEEDLE IS HITTING THE NEEDLE PLATE. 2. NEEDLE IS BENT OR WORN. 3. NEEDLE IS HITTING THE HOOK RACE. 4. THE FABRIC MOVES WHILE THE NEEDLE IS PIERCING IT, OR THE NEEDLE ZIGZAGS WHILE IN FABRIC. 5. FABRIC IS BEING PULLED TOO STRONGLY WHILE SEWING.	SEE MECHANICAL ADJUSTMENT "NEEDLE POSITION". CHANGE THE NEEDLE. SEE MECHANICAL ADJUSTMENT "NEEDLE CLEARANCE TO ROTARY HOOK". SEE MECHANICAL ADJUSTMENT "NEEDLE SWING". GUIDE THE FABRIC GENTLY WHILE SEWING.	P.12 P.15 P.11

CONDITION	CAUSE	HOW TO FIX	REFERENCE
6. NOISY OPERATION	1. BACKLASH BETWEEN ROTARY HOOK GEAR AND LOWER SHAFT GEAR IS TOO GREAT.	SEE MECHANICAL ADJUSTMENT "NEEDLE CLEARANCE TO ROTARY HOOK".	P.15
	2. TOO MUCH UPPER SHAFT PLAY	REDUCE THE UPPER SHAFT PLAY	P.25
	3. INAPPROPRIATE BELT TENSION.	SEE MECHANICAL ADJUSTMENT "MOTOR BELT TENSION".	
	4. UPPER SHAFT GEAR IS LOOSE.	ELIMINATE THE LOOSENESS.	
	5. NOT ENOUGH OIL.	OIL ALL MOVING PARTS.	
7. DEFORMATION PATTERN	1. INAPPROPRIATE ZIGZAG SYNCHRONIZATION.	SEE MECHANICAL ADJUSTMENT "NEEDLE SWING".	P.11
	2. STRETCH STITCH FEED IS OUT OF BALANCE.	SEE MECHANICAL ADJUSTMENT "STRETCH STITCH BLANCE".	P.20

SERVICE ACCESS

FACE COVER

1. Open the face cover (A).
2. Remove the screws (B).
3. Take the face cover (A) off.

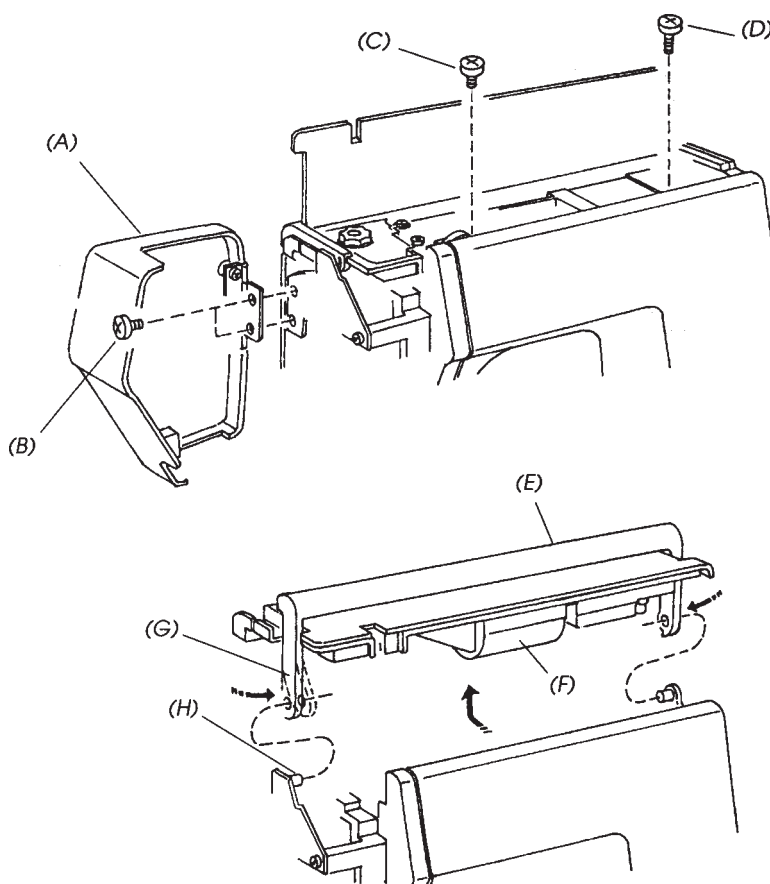
TOP COVER

(TO REMOVE)

1. Remove screws (C) and (D).
2. Raise the carrying handle (E), lift the top cover (F), and separate the carrying handle stays (G) from each pin (H) by pushing them from both sides.
3. Detach the top cover together with the carrying handle.

(TO ATTACH)

4. Put the top cover and carrying handle together, and fit the carrying handle stays to each pin while pushing them from both sides.
5. Attach the top cover with the set screws (C) and (D).
(There should be no interference with the pressure dial and the clearance between the front panel and top cover should be uniform.)

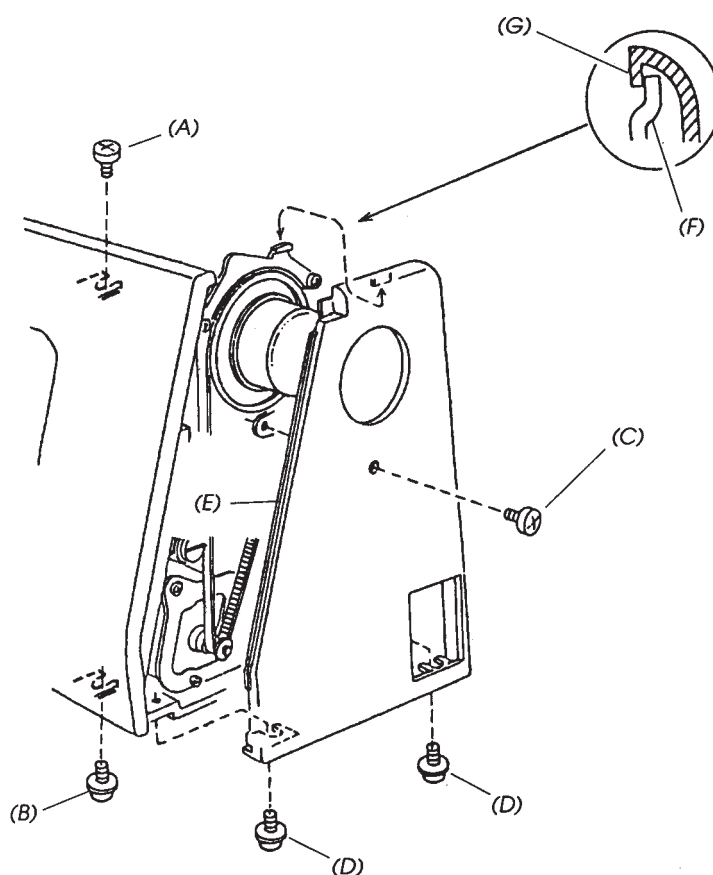


SERVICE ACCESS

BELT COVER

(TO REMOVE)

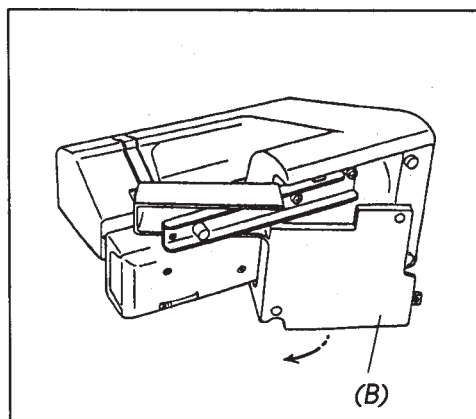
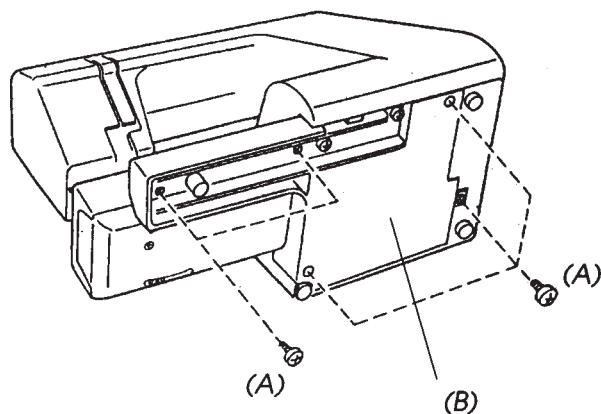
1. Remove the top cover (See page 4).
2. Loosen the screws (A) and (B) from the front cover.



SERVICE ACCESS

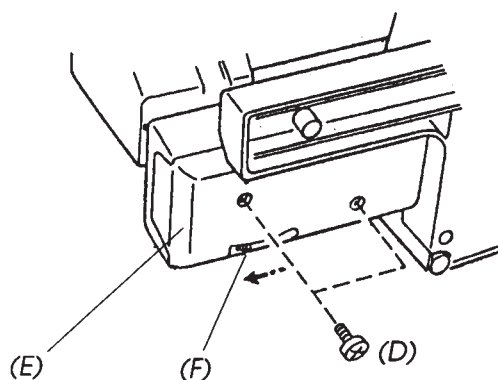
BASE

1. Remove 4 screws (A).
2. Remove the base (B).



BED COVER

1. Remove 2 screws (D).
 2. Remove the bed cover (E).
- * When you replace the bed cover, set the drop lever (F) in the left position.



SERVICE ACCESS

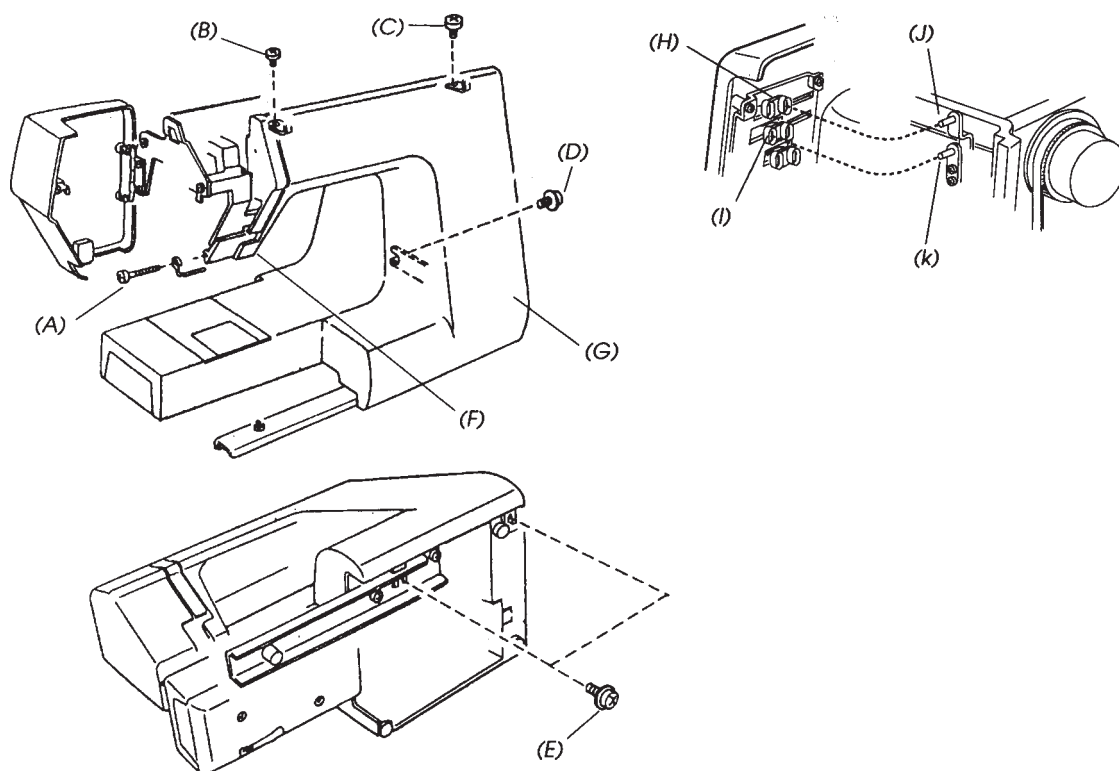
FRONT COVER

(TO REMOVE)

1. Remove the top cover, belt cover and base (See pages 4, 5 and 6).
2. Set the pattern selector dial at stitch No. 18 (Triple lock straight stitch).
When you turn the pattern selector dial, you can see the position of screw (D).
3. Remove the screws (A) and (B), then loosen the screws (C), (D) and (E).
4. Push and lower the part (F) gently, then pull it toward you to replace the front cover unit (G).

(TO ATTACH)

5. Follow the above procedure in reverse.
* When you attach the front cover, insert the zigzag mechanism pins (J) and (K) into the recesses of the width (H), length buttons (I).



SERVICE ACCESS

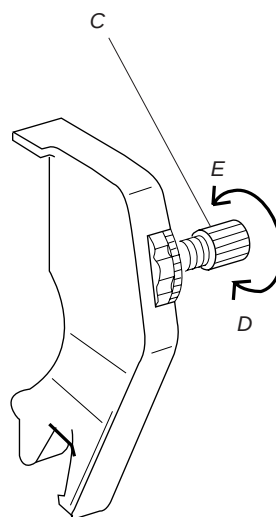
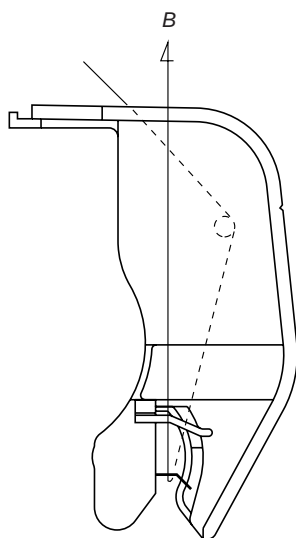
TOP TENSION

TO CHECK:

When polyester sewing thread size 50 (white) is passed as shown in the figure below and pulled upwards (A), the tension should be 75 to 90 g with the thread tension dial set at “3”.

ADJUSTMENT PROCEDURE:

1. Set the thread tension dial (B) at “3”, and pass the thread, as shown.
2. Open the face cover, and lower the pressure foot.
2. Adjust the tension by turning the shaft with a regular screwdriver to the direction of :
 - * (C) to increase the tension.
 - * (D) to decrease the tension.



MECHANICAL ADJUSTMENT

PRESSER BAR HEIGHT AND ALIGNMENT

TO CHECK:

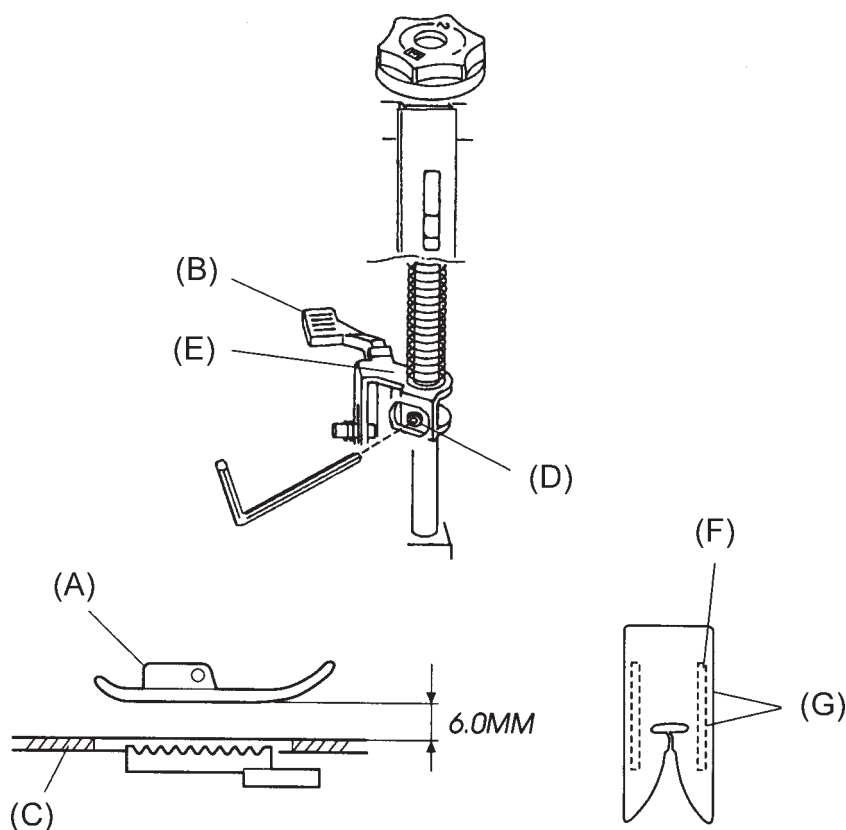
1. Raise the presser foot lever (B).
2. The distance between the zigzag foot (A) and the needle plate (C) should be 6.0 mm.

If this is not the case, adjust as follows.

ADJUSTMENT PROCEDURE:

1. Open the face cover.
2. Raise the presser foot lever (B) and loosen the hexagonal socket screw (D) on the presser bar bracket (E).
3. Adjust the distance between the zigzag foot (A) and the needle plate (C) to 6.0 mm.
4. Tighten the hexagonal socket screw (D) firmly.

Note: When you tighten the hexagonal socket screw (D), make sure the edge of the zigzag foot (A) is paralleled (G) with the edge of the feed dog (F).



MECHANICAL ADJUSTMENT

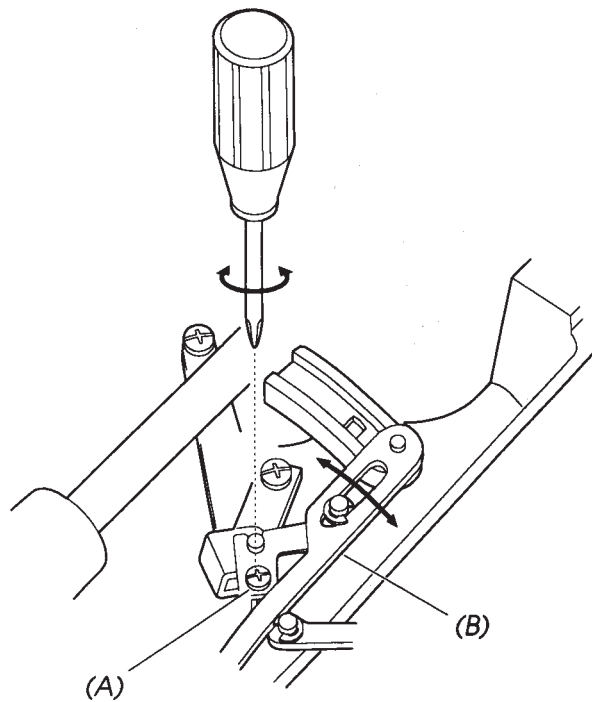
STRAIGHT STITCHING

TO CHECK:

1. Set the stitch width dial at "0" and the stitch selector at stitch No. 3 (Simple zigzag).
2. Turn the hand wheel by hand.
3. The needle should not swing side to side at this setting.

ADJUSTMENT PROCEDURE:

1. Remove the top cover (See page 4).
2. Loosen screw (A).
3. Move the zigzag width rod (B) until the needle ceases its zigzag movement when you turn the hand wheel toward you.
4. Tighten screw (A) firmly.



MECHANICAL ADJUSTMENT

NEEDLE SWING

TO CHECK:

If the needle bar moves sidewise while the needle is in the fabric in zigzag stitching (The needle should start swinging when 2 to 3mm above the needle plate in right outflow), adjust as follows:

ADJUSTMENT PROCEDURE:

1. Remove the top cover (See page 4), set the pattern selector dial at stitch No. 3 (simple zigzag stitch) and select the maximum zigzag width.
2. Loosen the two hexagonal socket screws (A) on the upper shaft worm.
2. While holding the upper shaft worm (B) in place, carefully turn the hand wheel and adjust so that lateral needle swing starts from a position 2 to 3mm above the needle plate in right outflow (E).

(Note): Make sure the worm does not move sidewise when turning the upper shaft. Otherwise, the backlash between the worm and gear will change.

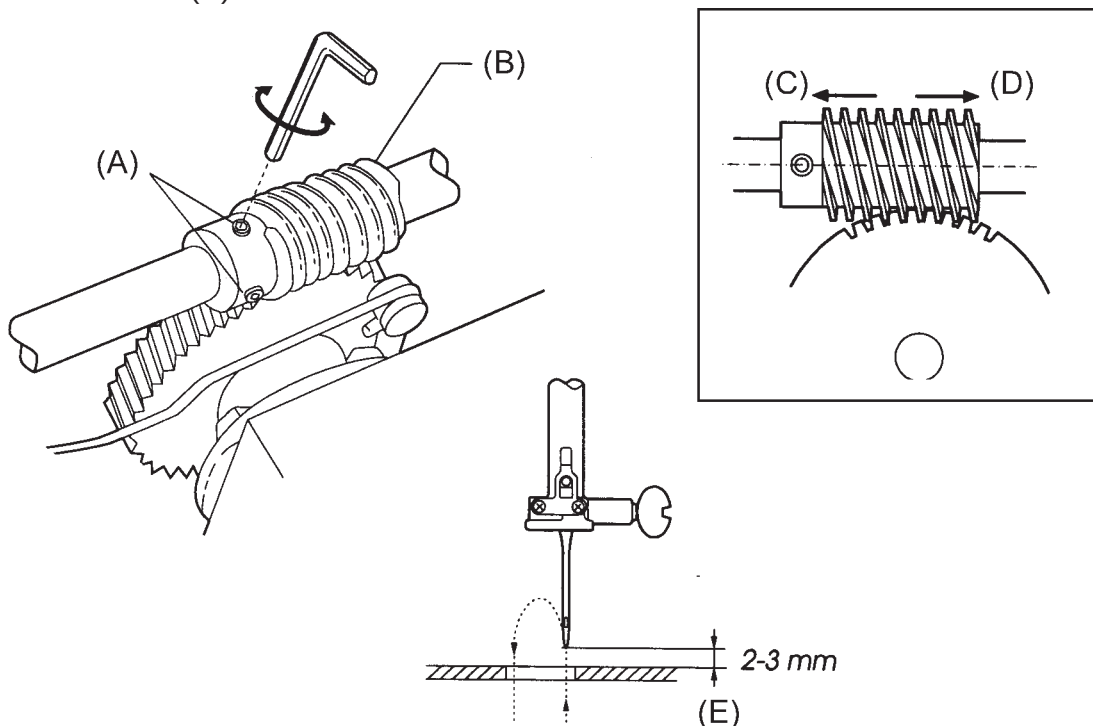
4. Tighten the two hexagonal socket screws on the upper shaft worm.
5. Attach the top cover.

Note: For removal and replacement of the top cover after adjustment of the timing of lateral needle swing, make sure that there is no backlash between the upper shaft worm and the other gear and that smooth rotation is obtained.

Move the upper shaft worm (B) to the direction of:

* (C) to decrease the backlash.

* (D) to increase the backlash.



MECHANICAL ADJUSTMENT

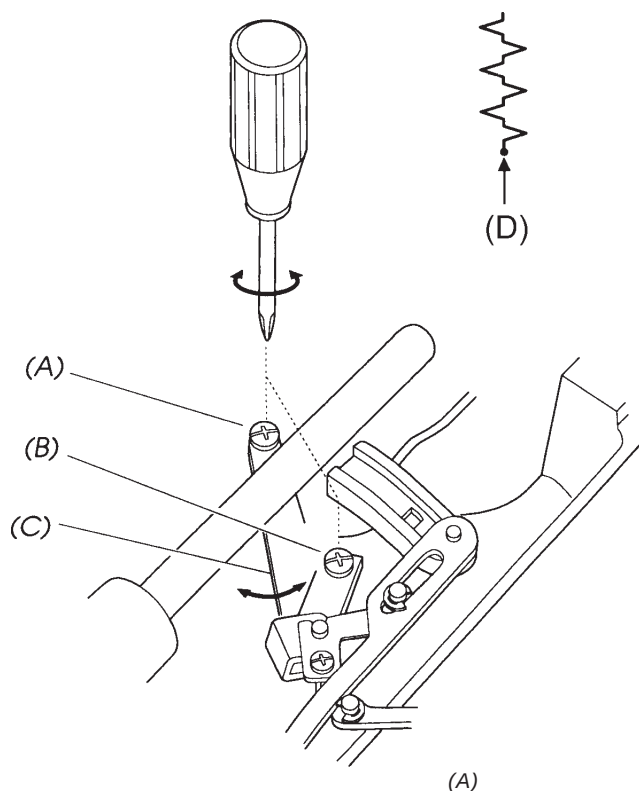
NEEDLE POSITION

TO CHECK:

1. Set the machine as follows:
 - * Stitch selector at stitch No. 7
 - * Stitch width control at 6.5
2. Turn the hand wheel toward you until the needle comes to center position (D).
3. The needle should not move when you turn the stitch width control to "0".

ADJUSTMENT PROCEDURE:

1. Remove the top cover (See page 4).
2. Turn the hand wheel toward you until the needle comes to the center of the slit in the needle plate.
3. Loosen screws (A) and (B).
4. Tighten screw (A) slightly.
5. Move the plate (C) in either direction as shown by the arrow until the needle ceases movement, even if the dial is moved from maximum zigzag width to zero.



MECHANICAL ADJUSTMENT

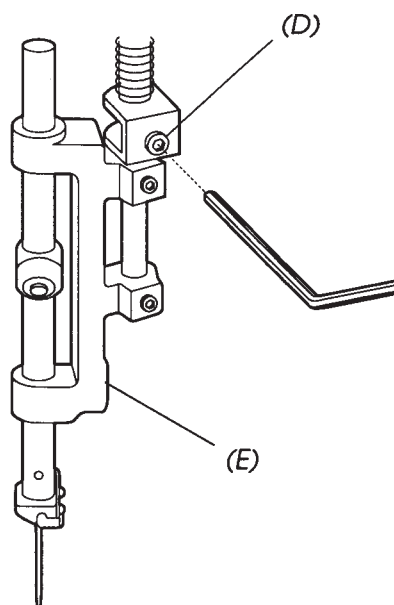
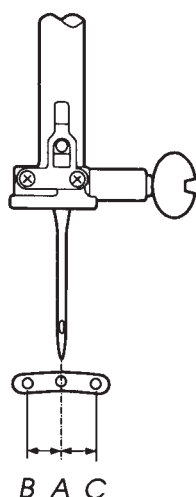
DISTRIBUTION OF NEEDLE SWING

TO CHECK:

1. Set the stitch width control to "0" and the stitch selector at stitch No. 3 (simple zigzag).
2. Raise the needle to its highest position.
3. Place the darning plate on the needle plate.
4. Place a piece of paper on the darning plate and lower the presser foot.
5. Lower the needle to mark the needle point (A) on a piece of paper by turning the hand wheel.
6. Raise the needle to its highest position.
7. Turn the stitch width control to 6.5.
8. Lower the needle to mark needle points (B) and (C) on the piece of paper by turning the hand wheel.
9. The distance between A-B and A-C should be equal.

ADJUSTMENT PROCEDURE:

1. Open the face cover and loosen hexagonal socket screw (D).
2. Move the needle bar supporter (E) in either direction until the distances (A) to (B) and (A) to (C) become equal.
3. Tighten hexagonal socket screw (D) firmly.



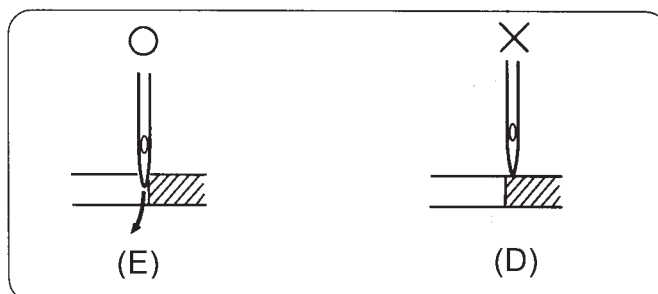
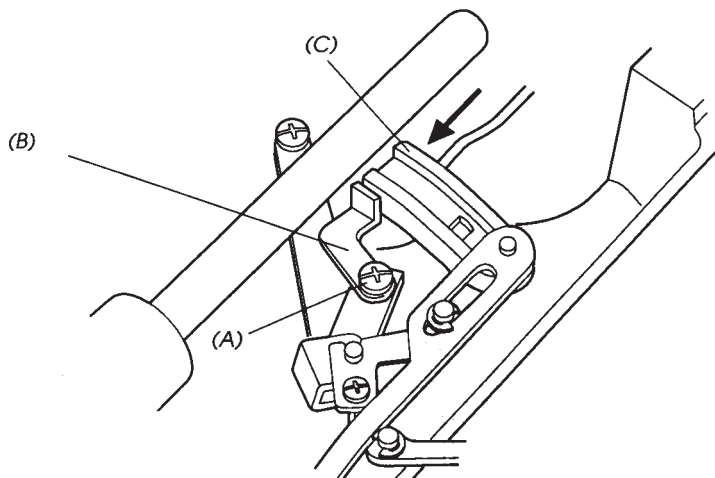
MECHANICAL ADJUSTMENT

ZIGZAG STOPPER

If the needle tip hits with the needle plate (D) when the needle swings to the right at the maximum zigzag width, adjust as follows.

(when the needle drop position in the needle plate hole deviates toward the right of the hole, refer to "DISTRIBUTION OF NEEDLE SWING".)

1. Set the stitch selector, zigzag width at "6.5".
2. Remove the top cover (See page 4).
3. Turn the hand wheel until the needle tip is located above the top surface of the needle plate in descending travel at the right needle position.
4. Slightly loosen screw (A), lightly press the stopper (B) against the zigzag width crank (C), and then temporarily tighten the set screw.
5. Push the zigzag width crank (C) in the direction of the arrow and turn the hand wheel to make sure that the needle tip comes into contact with the needle plate (E). Tighten screw (A) firmly.
6. Run the sewing machine and make sure that there is no hitting noise between the zigzag width crank and the zigzag stopper. Attach the top cover.



MECHANICAL ADJUSTMENT

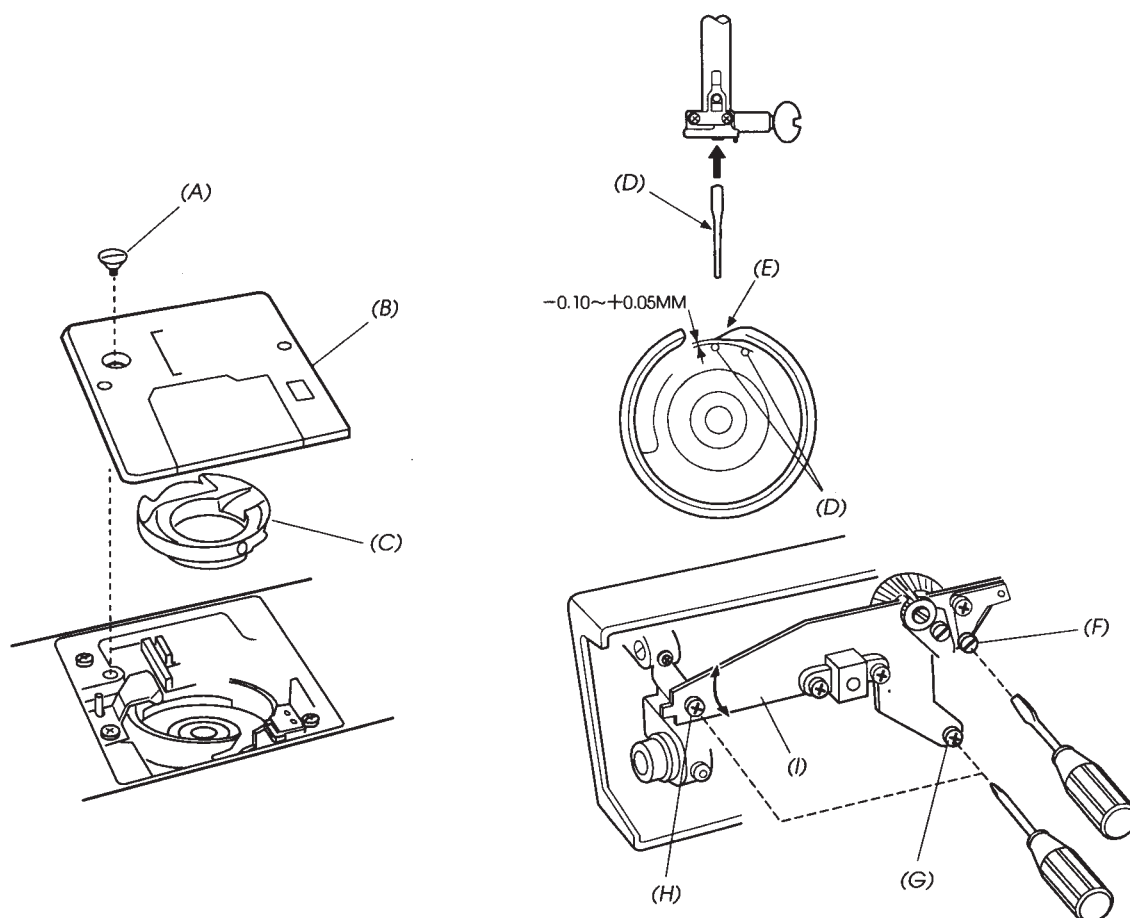
NEEDLE CLEARANCE TO ROTARY HOOK

TO CHECK:

1. Set the stitch selector at stitch No. 3 (simple zigzag)
2. Remove the set screw (A) of the needle plate, and detach the needle plate (B) and bobbin holder (C).
3. Attach the master needle.
4. Turn the hand wheel slowly by hand until the needle bar reaches its lowest position.
5. The clearance between the master needle (D) and the tip of the rotary hook (E) should be between -0.10 and +0.05 mm.

ADJUSTMENT PROCEDURE:

1. Remove the bed cover (See page 6).
2. Loosen set screws (F), (G) and (H).
3. Tighten set screw (C) temporarily.
4. Move plate (I) to either direction as shown by the arrow until the clearance between the master needle (D) and the sharp end (E) of the rotary hook is between -0.10 and +0.05 mm.
5. Tighten the set screws (F), (G) and (H) firmly.



MECHANICAL ADJUSTMENT

BACKLASH (LOWER SHAFT GEAR)

TO CHECK:

1. Remove screw (A) to remove the needle plate (B) and bobbin holder (C).
2. Turn the hand wheel slowly toward you until the tip of the rotary hook (D) comes within the width of the feed dog (E).
3. Rotate the hook race clockwise and counterclockwise by hand and check the play (J). It should be within 0.8 mm.

If there is more than 0.8mm backlash between the gears, adjust as follows.

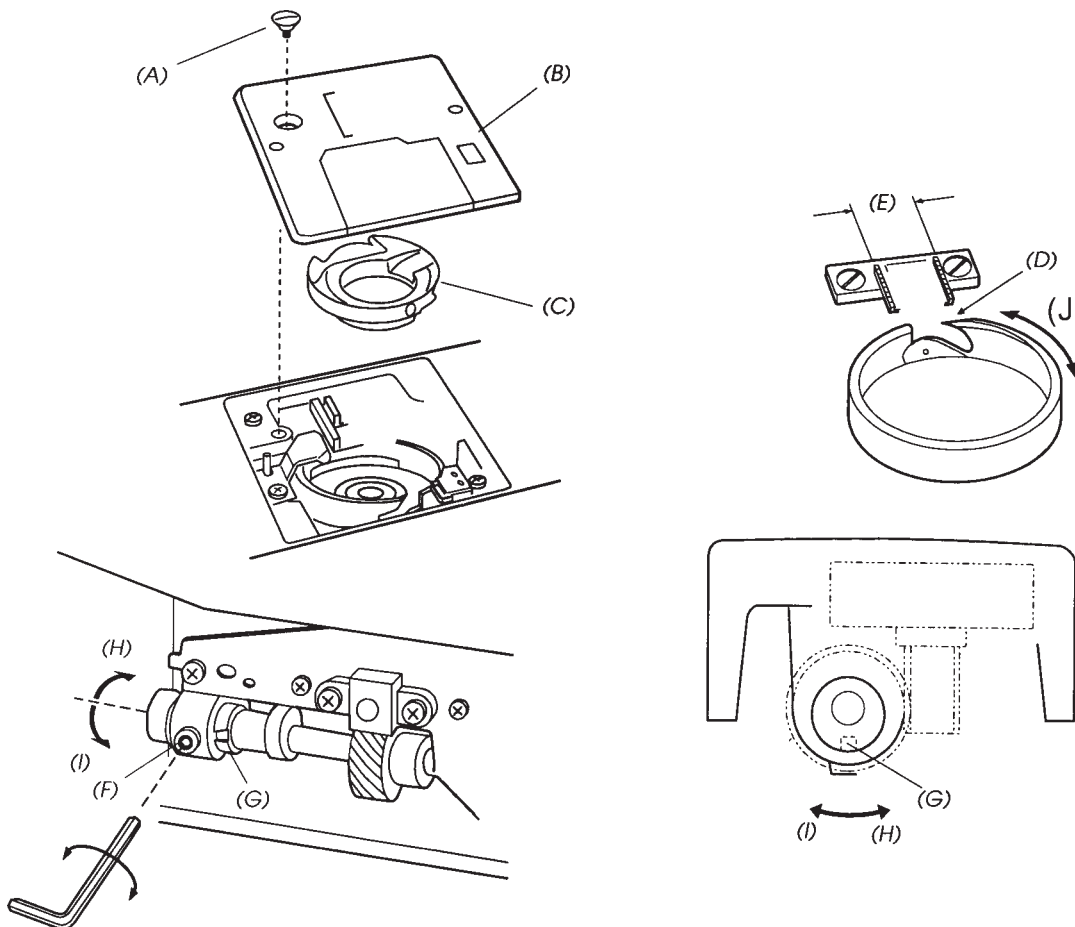
ADJUSTMENT PROCEDURE:

1. Remove the bed cover (See page 6), and loosen hexagonal socket screw (F).
2. Turn the lower shaft bushing (G) in direction of:

* (H) when the play at the tip of rotary hook is too small.

* (I) when the play at the tip of rotary hook is too large.

4. Tighten hexagonal socket screw (F) firmly after the adjustment.

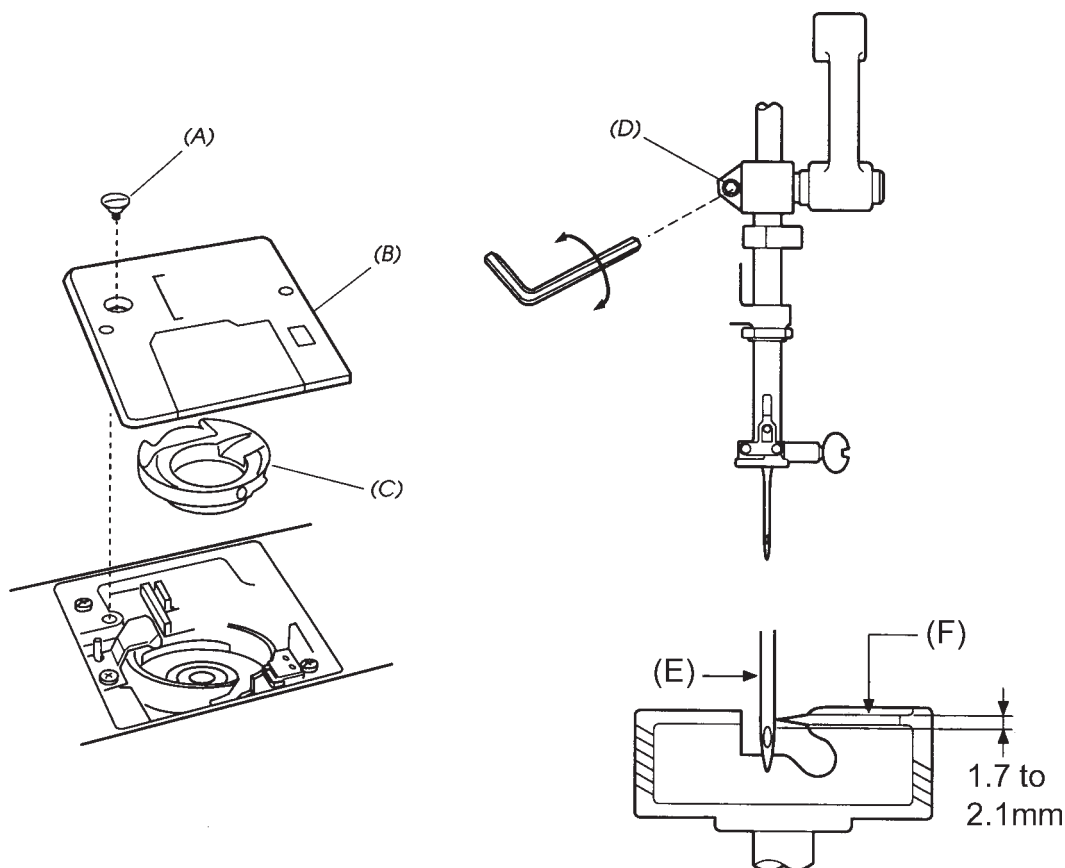


MECHANICAL ADJUSTMENT

NEEDLE BAR HEIGHT

When the tip of the rotary hook exactly meets the right of the needle (E) in ascending travel of the needle bar from its lowest position at the left needle drop position with the pattern selector dial at stitch No. 3 (simple zigzag) at the maximum zigzag width, the distance between the upper edge of the needle eye and the race (F) of rotary hook should be 1.7 to 2.1mm.

1. Select pattern No. 3 and set the zigzag width at "6.5".
2. Remove the set screw (A) to remove the needle plate (B) and bobbin holder (C).
3. Turn the machine to the back, and open the face cover.
4. Turn the hand wheel toward you until the tip of rotary hook exactly meets the right side of the needle at the left needle drop position.
5. Loosen the set screw (D) of the needle bar connecting stud.
6. Move the needle bar to provide a distance of 1.7 to 2.1 mm between the upper edge of needle eye and the race of the rotary hook.
7. Tighten the set screw of the needle bar connecting stud.
8. Attach the bobbin holder and needle plate.



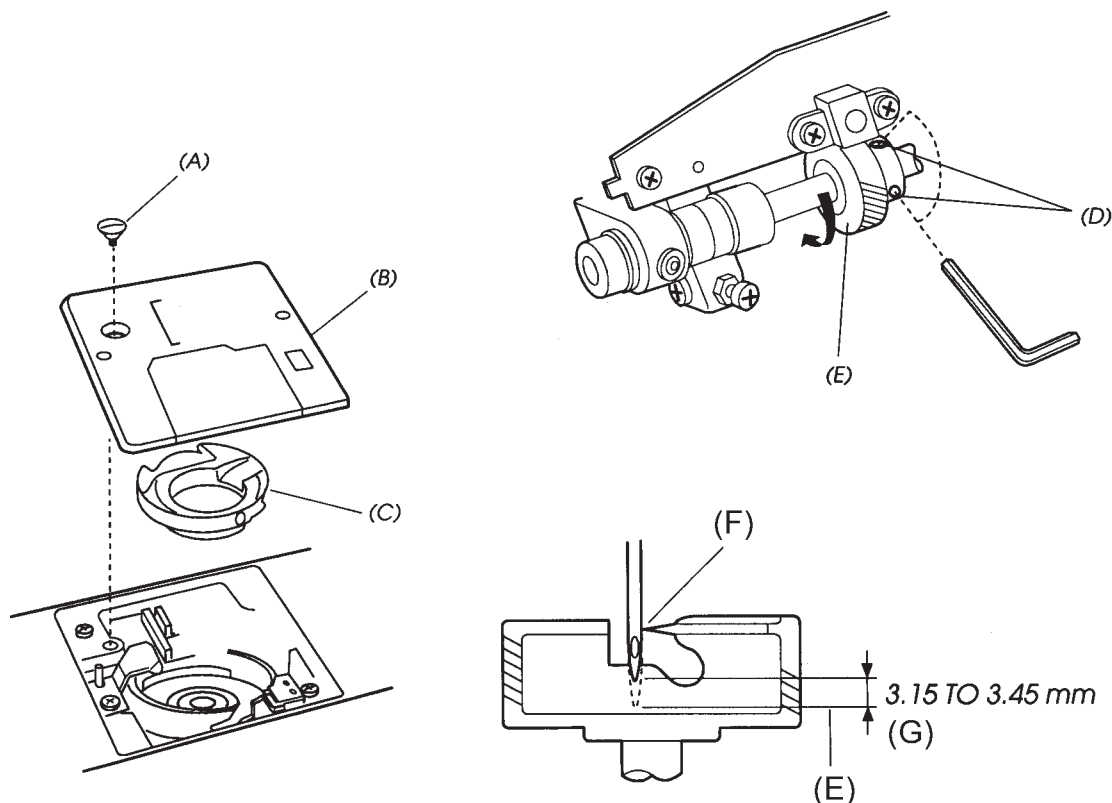
MECHANICAL ADJUSTMENT

NEEDLE TO ROTARY HOOK TIMING

With the needle bar swing to the left at the maximum zigzag width, the amount of ascending travel of the needle bar from its lower position (H) to the position where the tip of the rotary hook (F) exactly meets the right side of the needle should be 3.15 to 3.45mm (G).

Before the adjustment, be sure to check the needle bar height.

1. Select pattern No. 3 and set the zigzag width at "6.5".
2. Remove screw (A) to remove the needle plate (B) and bobbin holder (C).
3. Remove the bed cover (See page 6).
4. Loosen set screws (D) on the lower shaft gear (E).
5. Turn the hand wheel toward you to raise the needle bar 3.15 to 3.45mm from its lowest position with the needle swing to the left.
6. While holding the hand wheel by hand to prevent the needle bar from moving, turn the lower shaft gear in the arrow direction until the tip of the rotary hook exactly meets the right side of the needle.
7. Tighten the set screws on the lower shaft gear.
8. Attach the bed cover, bobbin holder and needle plate.

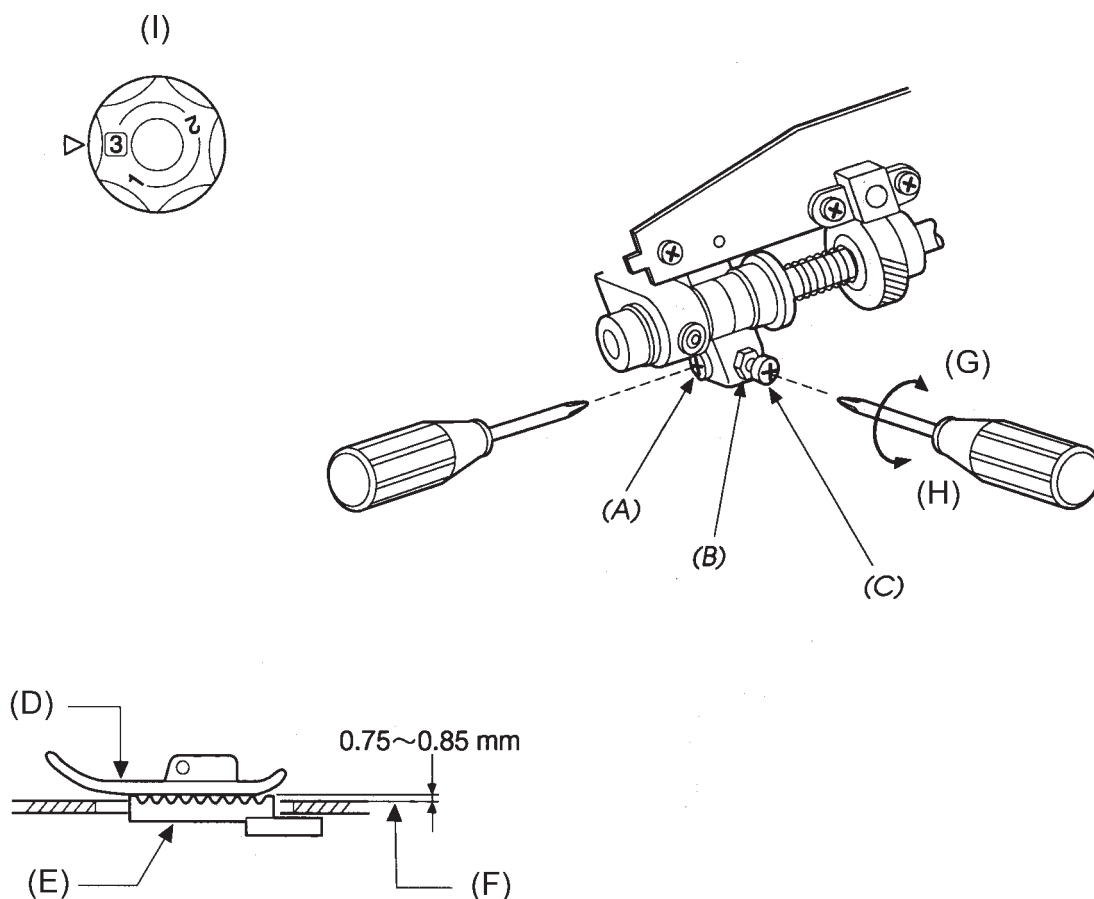


MECHANICAL ADJUSTMENT

FEED DOG HEIGHT

When the presser foot (D) is lowered with the pressure dial set (I) at "3", "the highest position of the feed dog (E) should be 0.75 to 0.85mm above the top surface (F) of the needle plate.

1. Set the pressure dial at "3", and lower the presser foot.
2. Turn the hand wheel until the feed dog comes to its highest position.
3. Remove the bed cover (See page 6).
4. Loosen screw (A) and nut (B).
2. Turn the adjusting screw (C) so that the feed dog height comes 0.75 to 0.85mm above the top surface of the needle plate.
 - * Direction (G) to increase the height.
 - * Direction (H) to decrease the height.
6. Tighten the nut.
7. Tighten screw (A), and attach the bed cover.



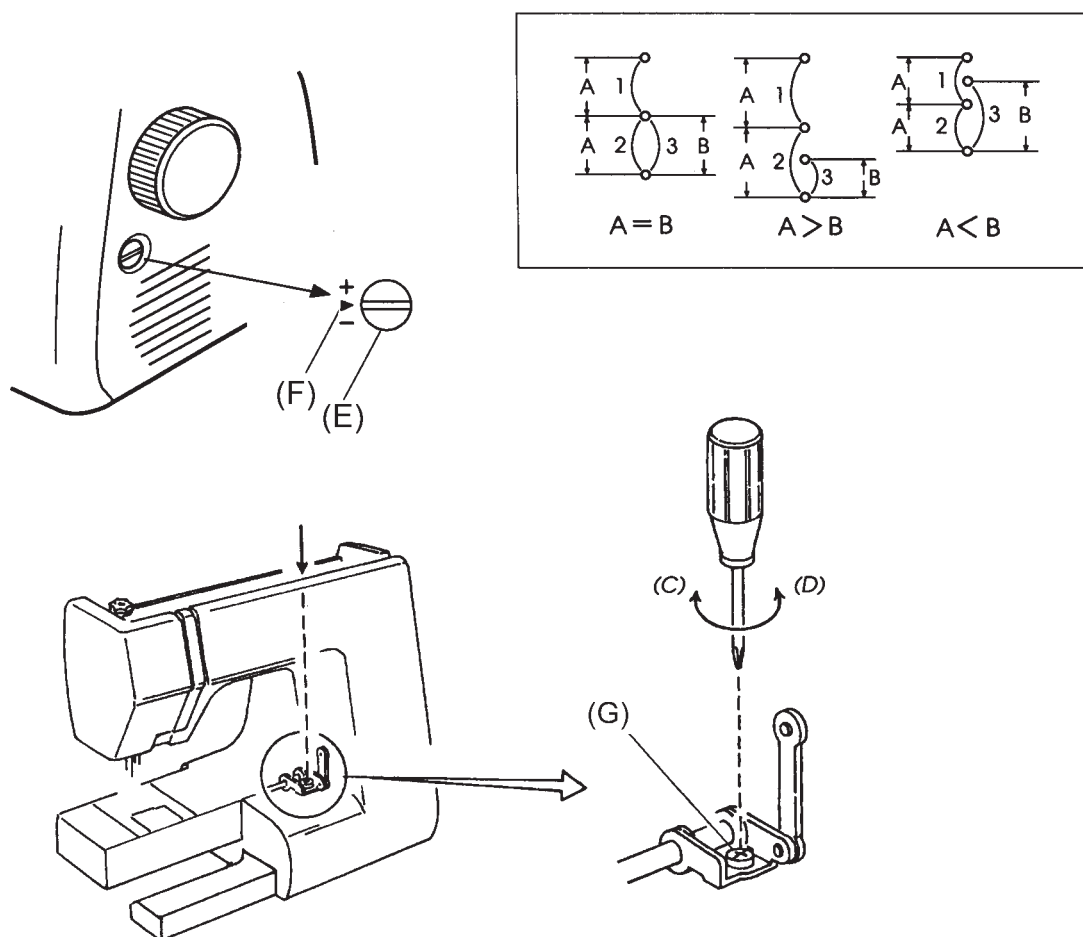
MECHANICAL ADJUSTMENT

STRETCH STITCH BALANCE

When the stitch No. 18 is sewed with the stretch stitch adjusting knob (E) at the setting mark (F), the stitch should be formed as shown in the figure below ($A=B$).

If forward feeding and backward feeding is not balanced, make adjustment in the following procedure.

1. Remove the top cover (See page 4), and set the stretch stitch adjusting knob (E) at the setting mark (F).
2. place a piece of paper under the presser foot, and turn the hand wheel to check the needle drop position in forward (A) and backward feeding (B).
If $(A) > (B)$, turn the adjusting screw (G) in direction of (C).
If $(A) < (B)$, turn the adjusting screw (G) in direction (D).
4. Attach the top cover.



MECHANICAL ADJUSTMENT

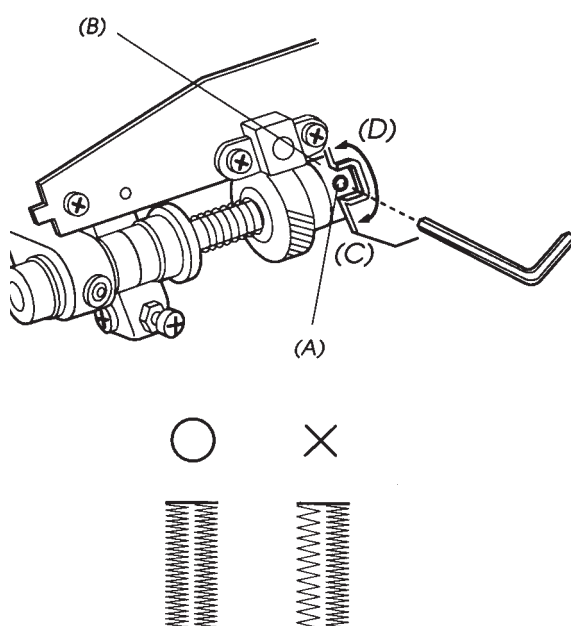
BUTTONHOLE STITCH BALANCE

TO CHECK:

1. Set the machine as follows:
Stitch selector at "BH"
Stitch length dial at "blue zone"
Stitch width dial at 6.5
2. Attach the automatic buttonhole foot (R).
3. Sew a buttonhole and check the stitch balance between the right side and left side of buttonhole.
4. The correct buttonhole stitch balance is when there is the same density on the right and left sides of the buttonhole.

ADJUSTMENT PROCEDURE:

1. Remove the bed cover (See page 6).
2. Loosen hexagonal socket screw (A).
3. If the right side of the buttonhole is too sparse, turn the ring (B) in the direction of (C).
If the left side of the buttonhole is too sparse, turn the ring (B) in the direction of (D).
4. Tighten hexagonal socket screw (A) firmly



MECHANICAL ADJUSTMENT

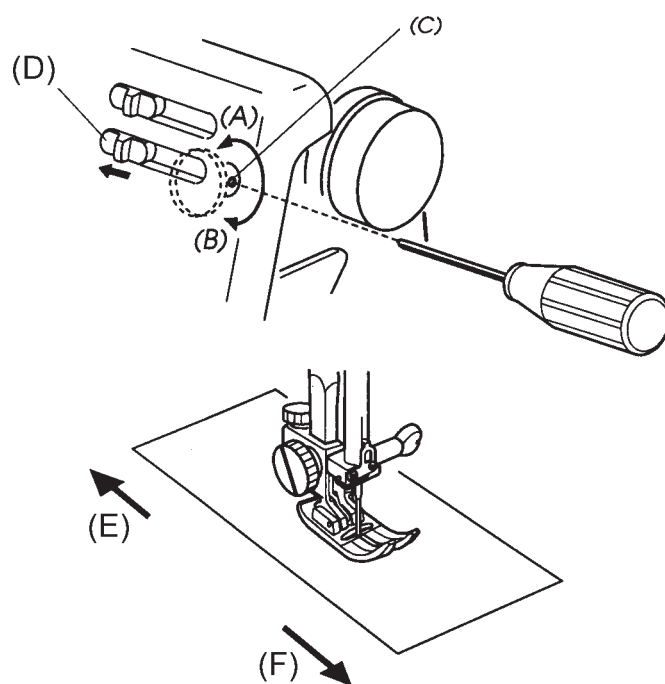
ZERO FEEDING

TO CHECK:

1. Select pattern No. 1 (straight stitch), and set the stitch length control (D) at "0".
2. Place a piece of paper on the needle plate.
3. Check if the paper moves forward or backward when you turn the hand wheel toward you.
4. The machine should not feed a piece of paper at this setting.

ADJUSTMENT PROCEDURE:

1. Remove the belt cover (See page 5).
2. Select pattern No. 1 (straight stitch), and set the stitch length control (D) at "0".
3. Place a piece of paper on the needle plate.
4. If the paper moves forward (E), turn adjusting screw (C) in direction (A).
5. If the paper moves backward (F), turn adjusting screw (C) in direction (B).



MECHANICAL ADJUSTMENT

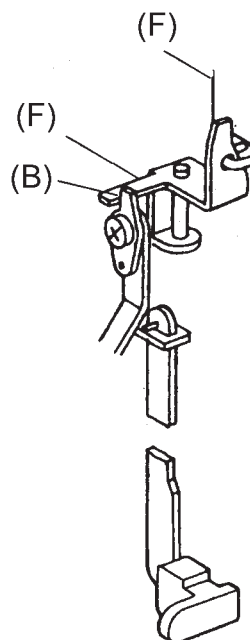
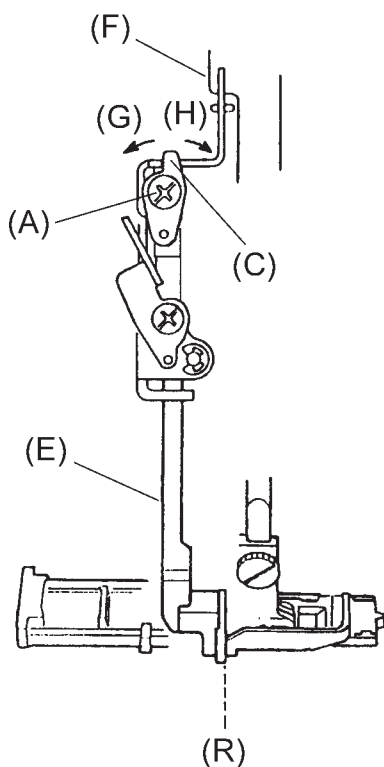
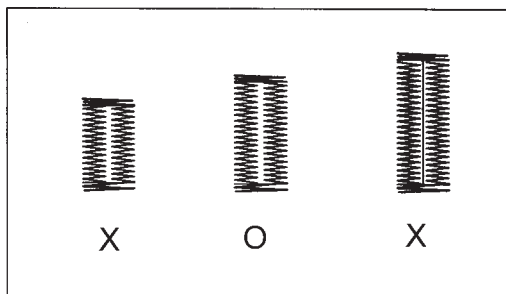
BUTTONHOLE FUNCTION (1)

A buttonhole sewn with the automatic buttonhole foot will be 3mm longer than the actual button.

The length can be adjusted as follows:

ADJUSTMENT PROCEDURE:

1. Lower the feed dog and attach foot (R), then lower the presser bar.
2. Open the face cover, and remove the micro switch.
3. Loosen screw (A).
4. Pull down the buttonhole lever (E) until it touches foot (R), and bar (B) touches the front base plate (F). Make sure buttonhole lever adjusting plate (C) touches bar (B). Tighten screw (A).
2. Raise the feed dog and sew a buttonhole. If the buttonhole is:
 - * too short, move the buttonhole lever adjusting plate (C) to the direction of (G).
 - * too long, move the buttonhole lever adjusting plate (C) to the direction of (H).
6. Attach the micro switch.



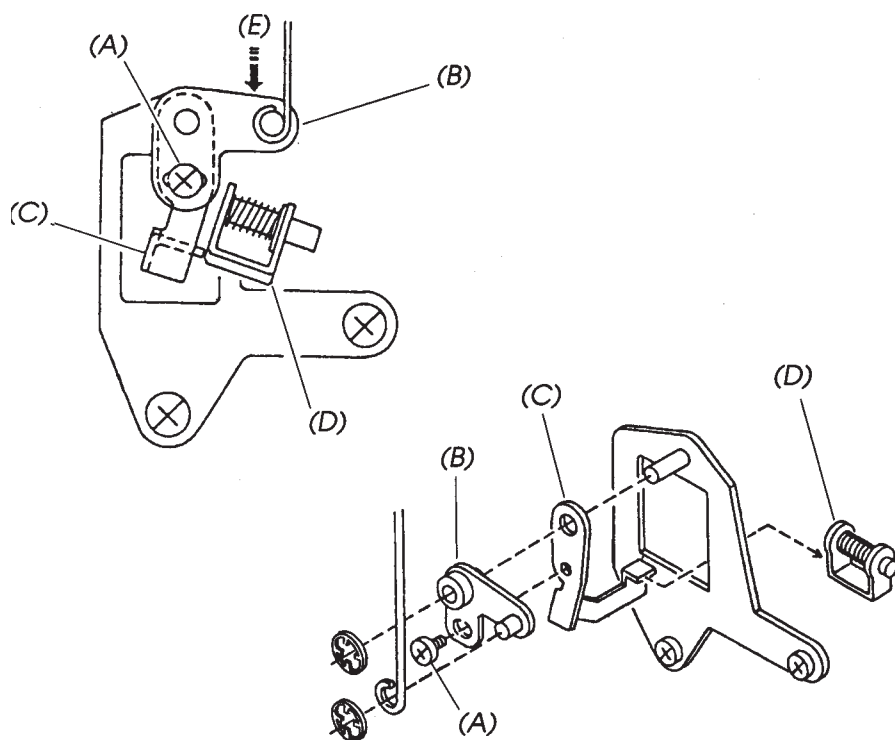
MECHANICAL ADJUSTMENT

BUTTONHOLE FUNCTION (2)

If the bar tack on the buttonhole is sewn too early (F), or if bar tack is sewn too late (G), adjust as follows:

ADJUSTMENT PROCEDURE:

1. Remove the belt cover (See page 5).
2. Loosen set screw (A).
3. Make adjustment so that plate (C) touches plate (D) while lightly pushing plate (B) in the direction of (E).
4. Attach the belt cover.



MECHANICAL ADJUSTMENT

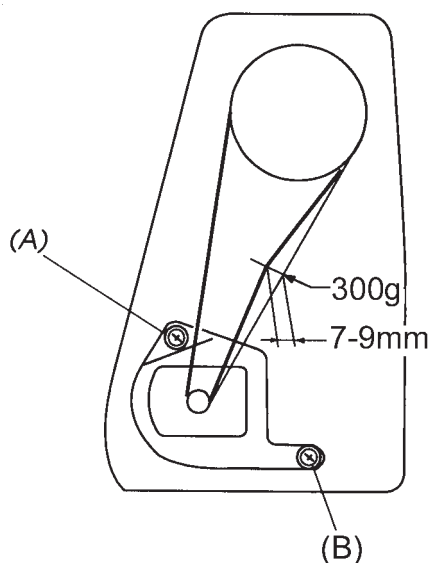
MOTOR BELT TENSION

TO CHECK:

1. If the motor belt tension is too tight or too loose, it may cause belt noise.
Also, a too tight belt tension can cause the machine to run slow and will overload the motor.
Too loose motor belt tension, however, may cause the belt teeth on the motor pulley to jump.
2. The correct motor belt tension is achieved when the belt pushes in about 7mm - 9mm under a pressure of about 300 grams.

ADJUSTMENT PROCEDURE:

1. Remove the belt cover (See page 5).
2. Loosen set screws (A) and (B).
3. Move the motor up or down to adjust the deflection to about 7mm - 9mm.
4. Tighten set screws (A) and (B).
5. Attach the belt cover.



PART REMOVAL AND REPLACEMENT

THREADER PLATE

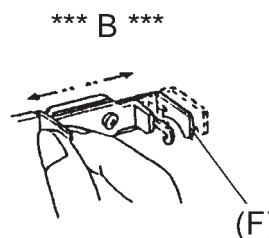
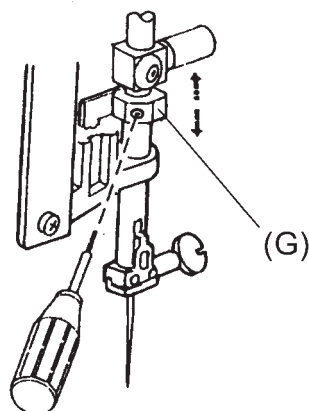
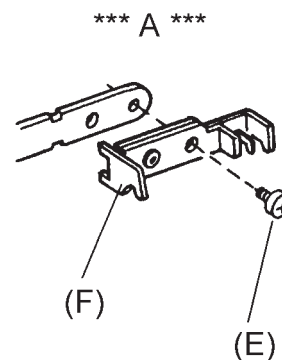
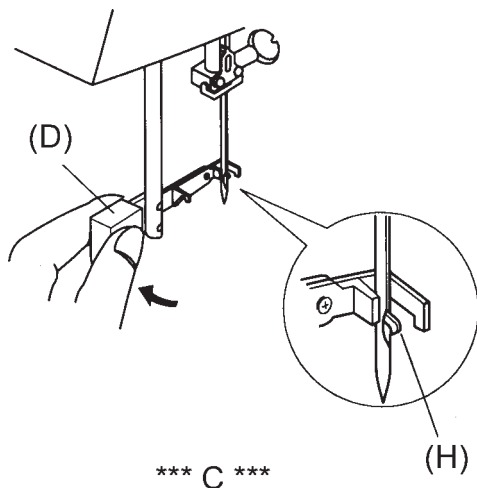
When the hook of the threader plate (F) is damaged, change or adjust the part as follows.

TO CHANGE THE THREADER PLATE:

1. Raise the needle to its highest position, and lower the threader knob (D) to its lowest position.
2. Remove the screw (E) to remove the threader plate (** A **).

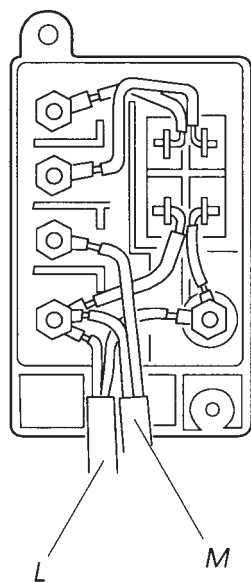
TO CHANGE THE NEEDLE THREADER:

1. If the hook (H) of the threader plate (F) touches the left or right side, loosen the screw (E) and adjust the hook position (** B **).
2. If the hook (H) of the threader plate (F) touches the top or bottom side of the needle hole, loosen the screw (G) and adjust the hook position (** C **).



WIRING OF MACHINE SOCKET

(FOR 220-240V)



L : LAMP

M : MOTOR

(FOR 110-120V)

