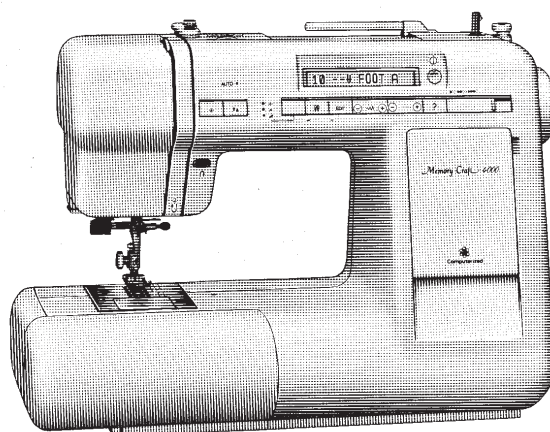


~~~~~SERVICING MANUAL~~~~~



Memory Craft 4000

MODEL MC 4000 SERVICE MANUAL

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1. TOP COVER

<TO REMOVE>

(1) Remove three (3) set screws A & B and top cover.

<TO ATTACH>

(2) Attached the top cover with three (3) set screws A and B.

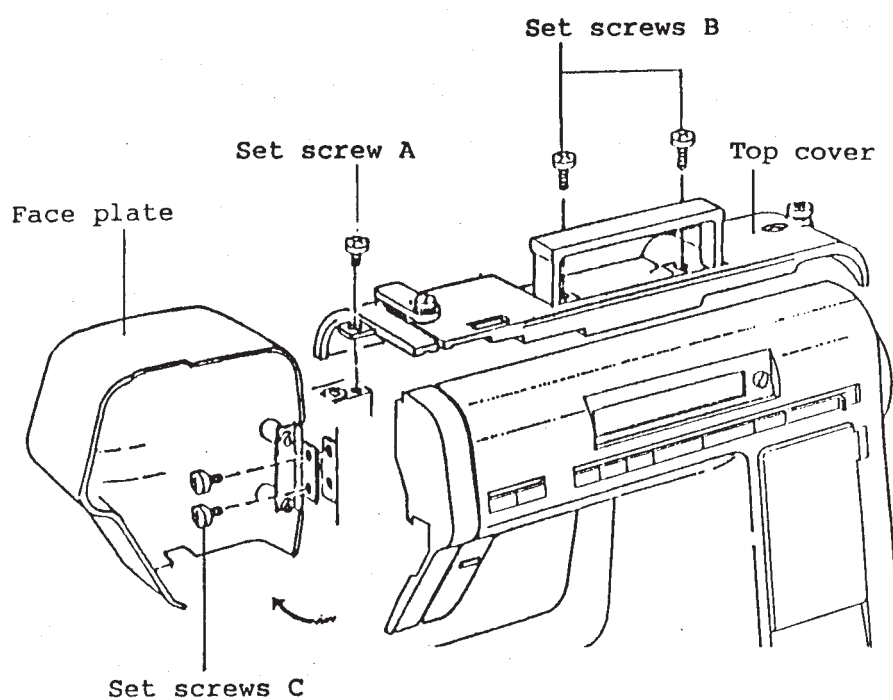
2. FACE PLATE

<TO REMOVE>

(3) Remove two (2) set screws C and face plate.

<TO ATTACH>

(4) Attach the face plate with two (2) set screws C.



1. BASE

<TO REMOVE>

(1) Remove six (6) set screws A and base.

<TO ATTACH>

(2) Attach the base with six (6) set screws A.

2. BED COVER

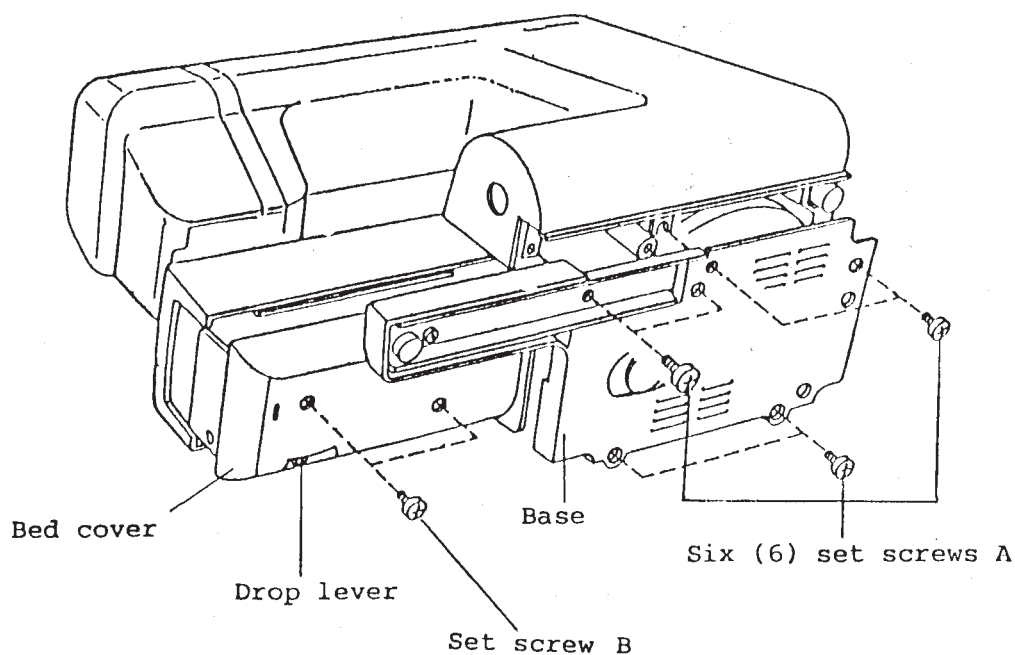
<TO REMOVE>

(3) Move the drop lever to the left, then remove the two (2) set screws B.

(4) Remove the bed cover.

<TO ATTACH>

(5) Move the drop lever to the left and attached the bed cover with two (2) set screws B.



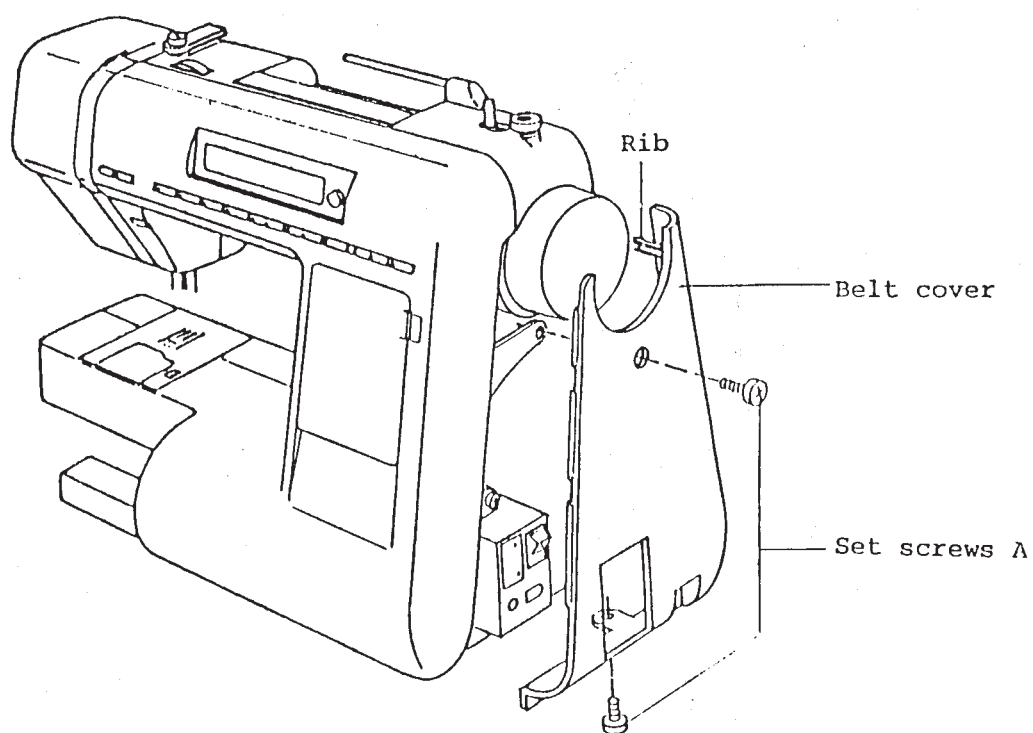
1. BELT COVER

<TO REMOVE>

(1) Remove two (2) set screws A and belt cover with rib out.

<TO ATTACH>

(2) Attach the belt cover with two (2) set screws A.



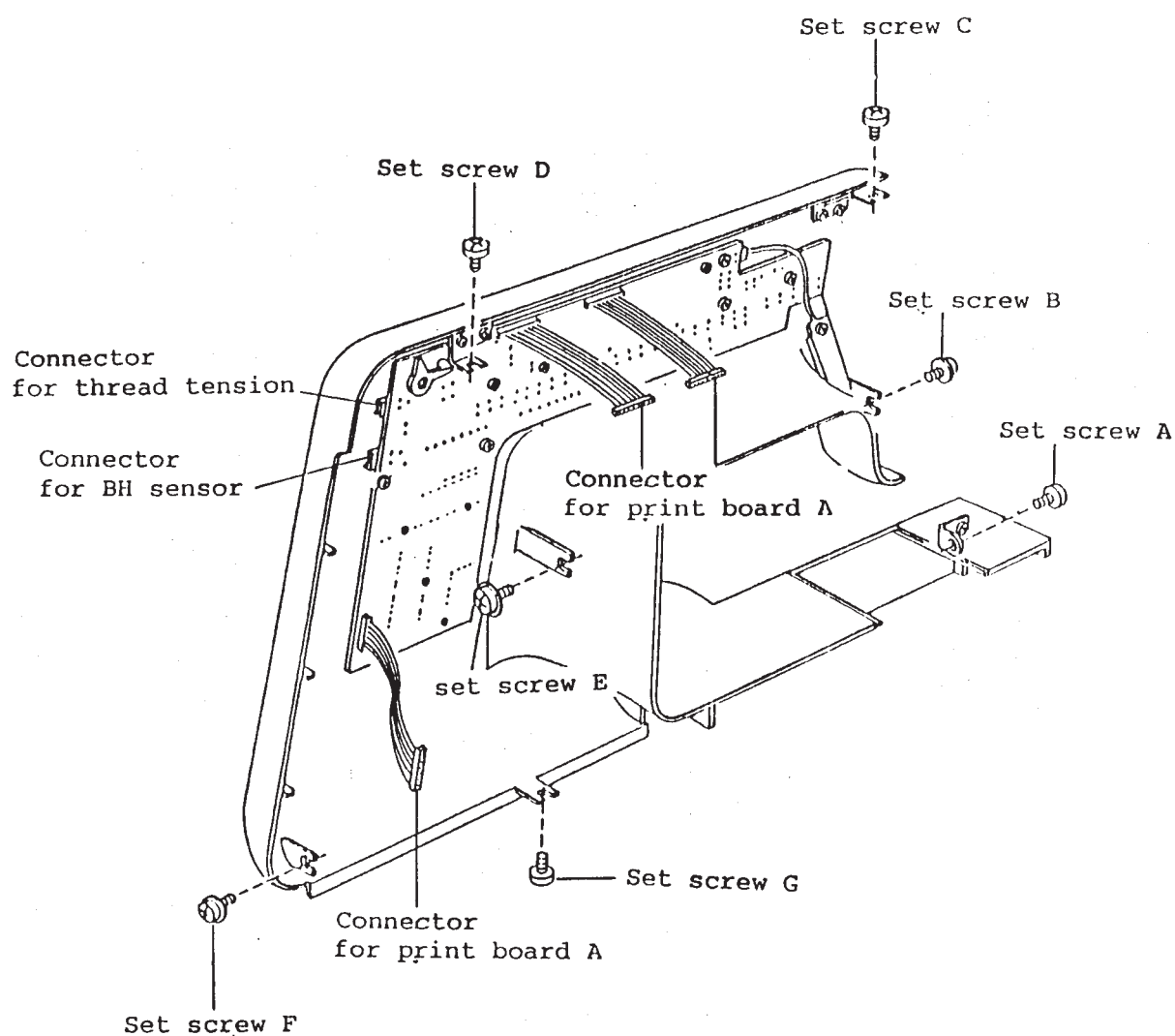
1. FRONT PANEL

<TO REMOVE>

1. Remove the top cover, belt cover and bed cover. (see pages 1, 2 and 3)
2. Remove set screw A and loose set screws B, C, D, E, F and G.
3. Pull out five (5) connectors and remove the front panel.

<TO ATTACH>

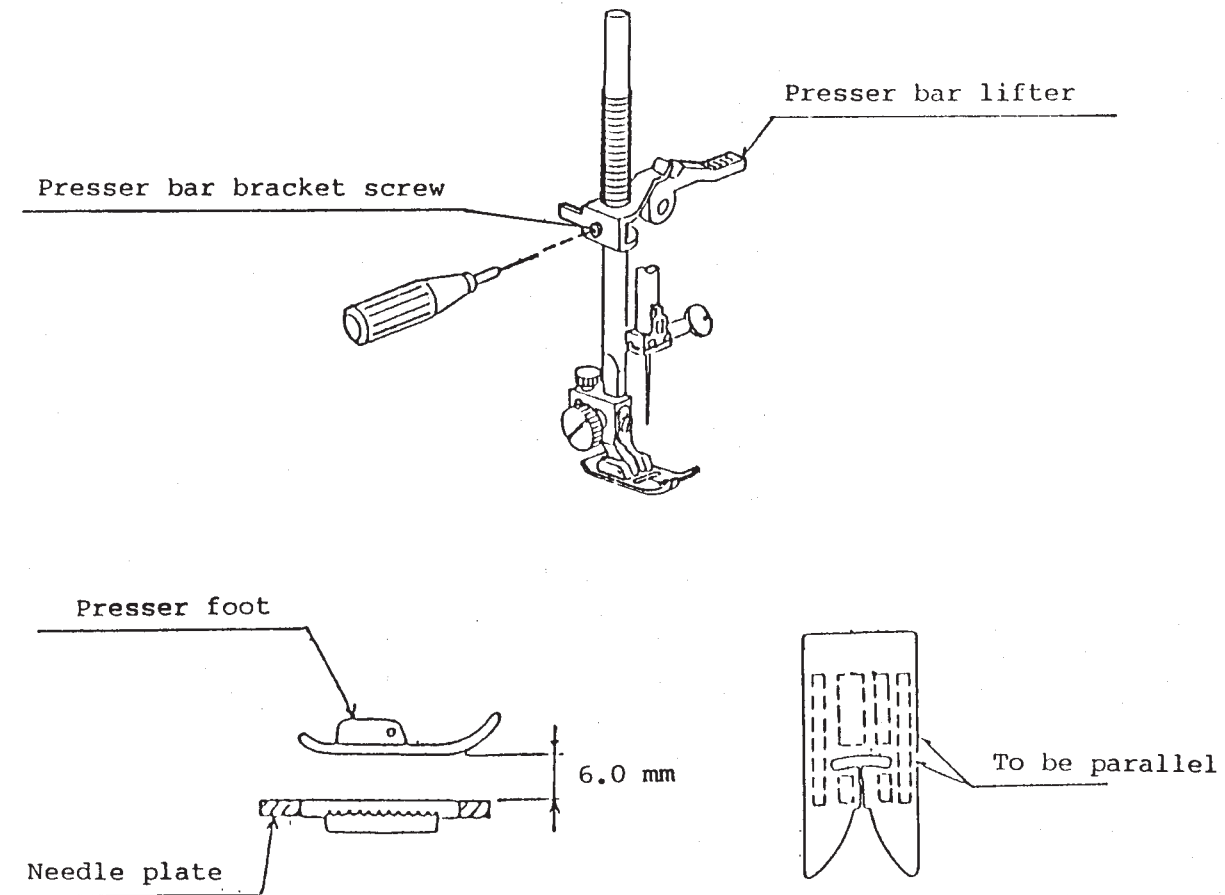
4. Insert five (5) connectors and attach the front panel.
5. tighten the screws.



TO ADJUST THE PRESSER BAR HEIGHT

The standard presser bar height is 6.0 mm between the bottom surface of the foot and needle plate when presser bar lifter is up position.

1. Open the face plate.
2. Raise the presser foot, loosen the presser bar bracket screw and adjust the height (6.0 mm)
3. Check if the presser foot is parallel to the openings for the feed dog on the needle plate. If not, adjust it.
4. Tighten the presser bar bracket screw while holding the presser bar to keep the foot parallel to the openings.
5. Close the face plate.



TO ADJUST THE NEEDLE DROP

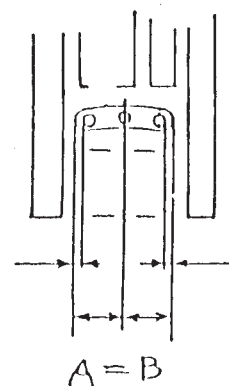
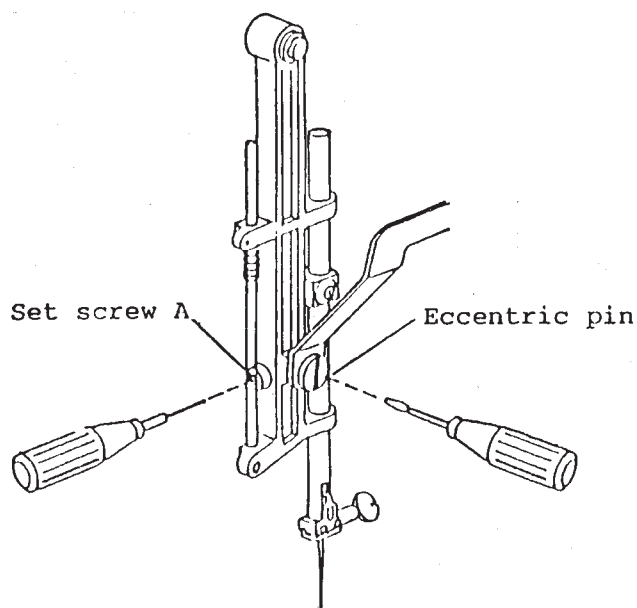
When select the pattern 10 [], needle drop should be in center position of needle hole on the needle plate or

When the needle swing in maximum zigzag width, the distance between the both ends of needle hole on the needle plate and the needle drop position should be equal.

If not, make an adjustment as follows:

- (1) Turn on the power switch.
- (2) Select pattern 10 [], or pattern 14 [] at maximum zigzag width.
- (3) Loosen the set screw A.
- (4) Turn the eccentric pin to adjust the needle drop.
- (5) Tighten the set screw A.

NOTE: Check the hook timing after this adjustment.

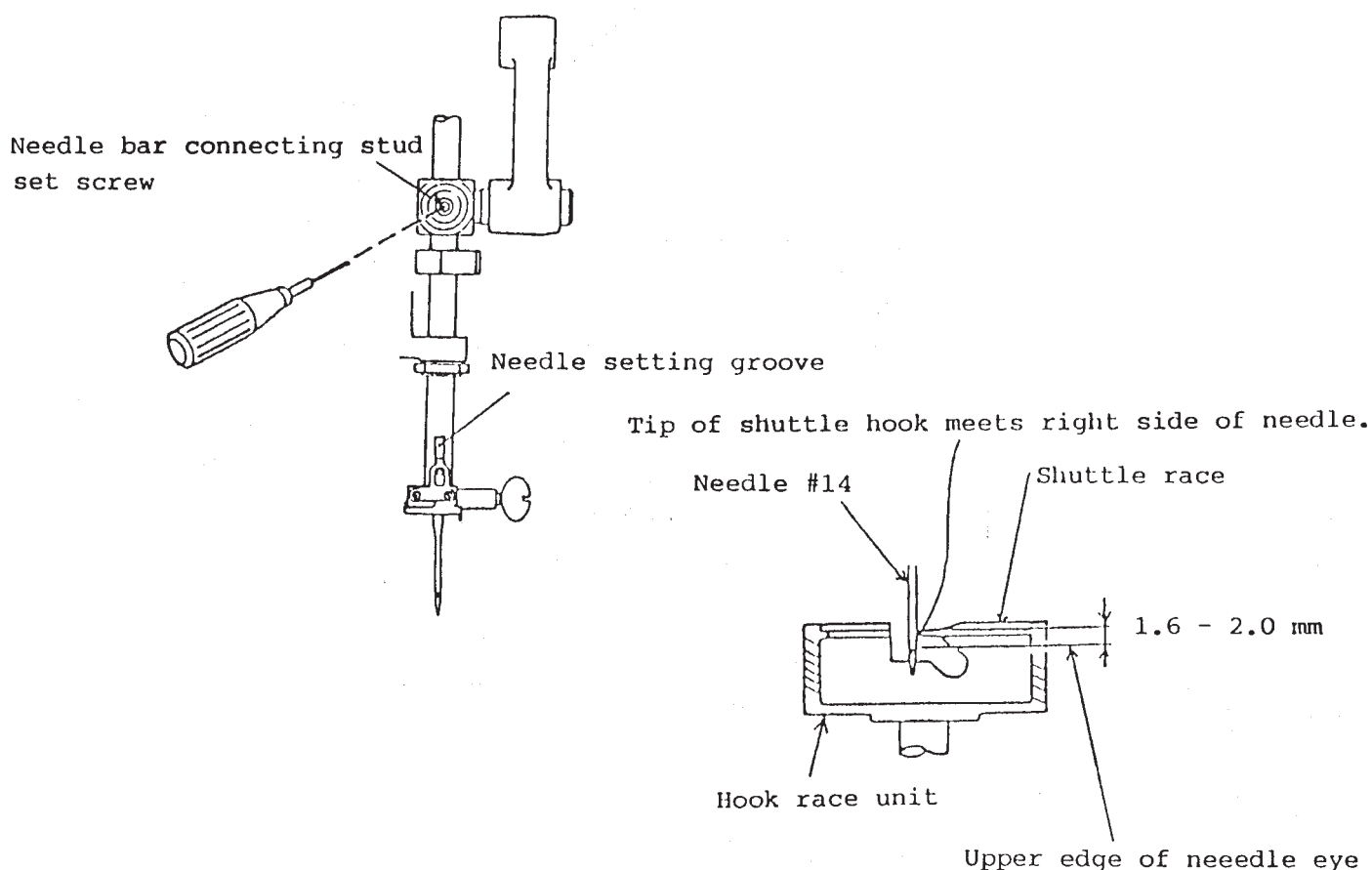


Both clearance should be equal

TO ADJUST THE NEEDLE BAR HEIGHT

The standard distance between the upper edge of needle eye and the tip of shuttle hook should be in the range of 1.6 - 2.0 mm when the tip of shuttle hook meets the right side of the needle in ascending travel of needle from its left and lowest position.

1. Remove the needle plate & bobbin holder.
2. Turn on the power switch and select the pattern [5].
3. Turn the balance wheel toward you until tip of shuttle hook meets the right side of the needle.
4. Loosen the needle bar connecting stud set screw.
5. Adjust the height of the needle bar by moving the needle bar upward or downward without turning it.
(make sure that the needle bar setting groove of the needle bar is in the front).
6. Tighten the set screw.
7. Insert the bobbin holder.
8. Attach the needle plate.



TO ADJUST THE NEEDLE BAR HEIGHT (WITH GAUGE)

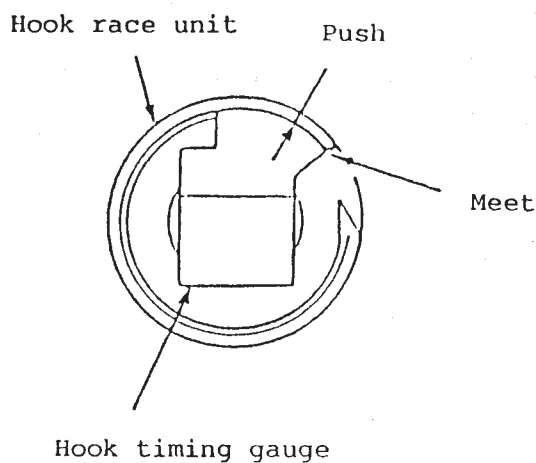
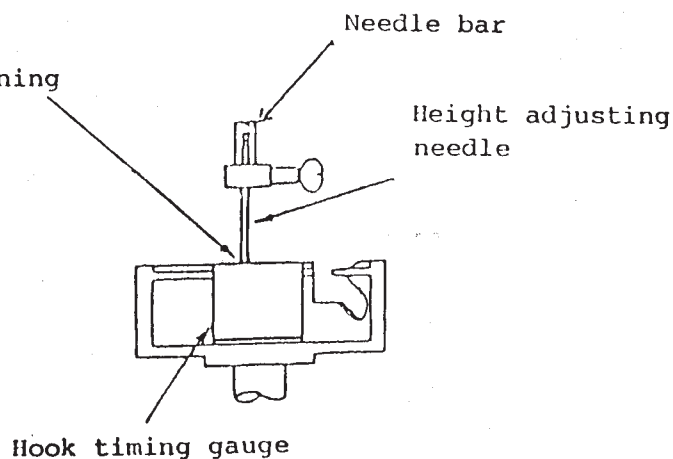
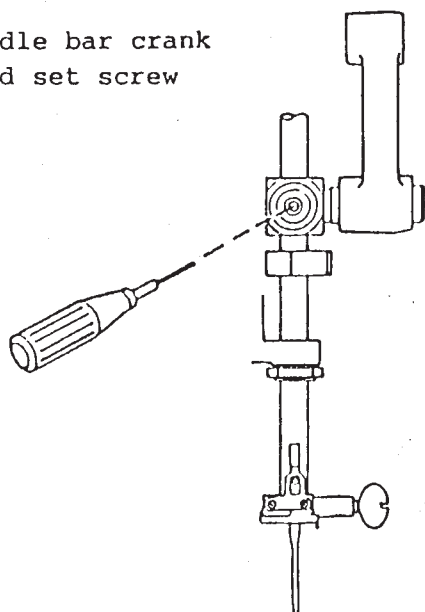
Although the needle bar height should be adjusted in accordance with the specification given on page 7, it can also be adjusted more simply in the procedure given below.

1. Remove the needle plate and bobbin holder.
2. Turn on the power switch and select the pattern [⑤].
3. Turn the balance wheel toward you, and set the needle bar to the lowest position.
3. Loosen the needle bar crank stud set screw.
4. Move up and down the needle bar to get the tip of height adjusting needle touch the hook timing gauge slightly.
5. Tighten the set screw A, while positioning the needle setting groove of the needle bar is in the front.
6. Remove the hook timing gauge and height adjusting needle.
7. Attach the bobbin holder and needle plate.

(NOTE): Before adjustment, make sure the adjustment of hook timing is correct.

Lightly touch the needle bar positioning at the lowest position.

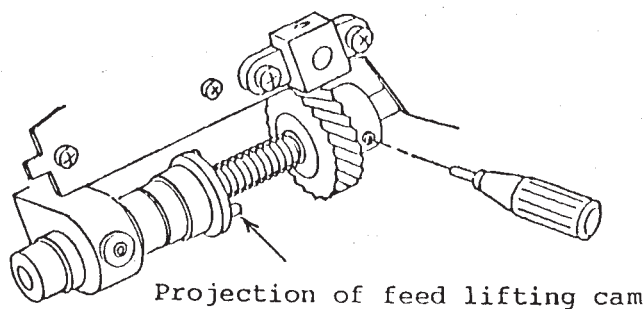
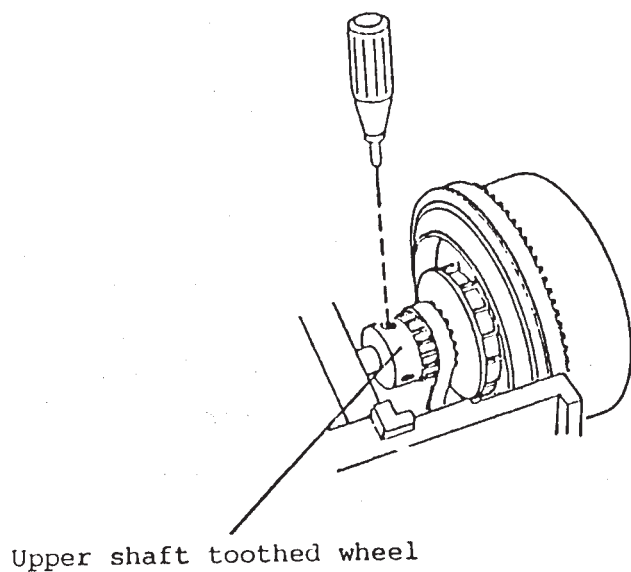
Needle bar crank stud set screw



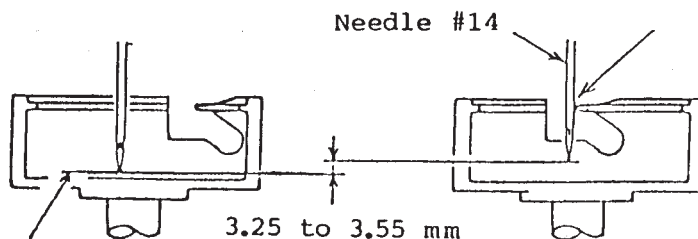
TO ADJUST THE HOOK TIMING

When the pattern [] is selected, the amount of ascending travel of the needle bar from its lowest position to the position where the tip of the rotary hook exactly meets the right side of the needle should be 3.25 to 3.55 mm.

1. Remove the needle plate and the bobbin holder.
2. Turn on the power switch and select the pattern [].
3. Remove the top cover, belt cover and bed cover. (see pages 1,2 and 3).
4. Turn the balance wheel toward you, and set the needle bar to the lowest position.
5. In this condition
 - * If the projection of feed lifting cam is in the lowest position, loosen the set screws of lower shaft timing wheel.
 - * If not, loosen the set screws of upper shaft toothed wheel.
6. Raise the needle bar further 3.25 to 3.55 mm from the lowest position.
7. Turn the lower shaft gear until the tip of shuttle hook meets with the right side of needle,
8. Tighten the set screws of lower shaft timing wheel or upper shaft toothed wheel.
9. Attached the bed cover, belt cover, top cover, bobbin holder and the needle plate.



The tip of shuttle hook meets with the right side of needle.

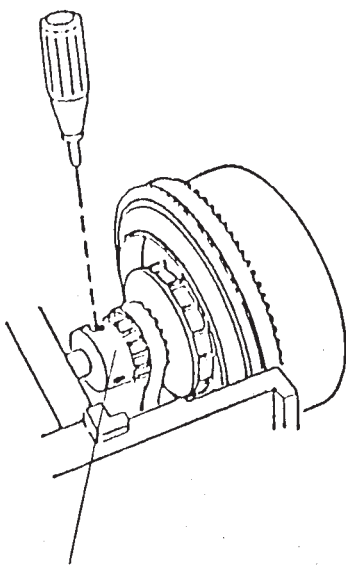


Needle bar is in the lowest position

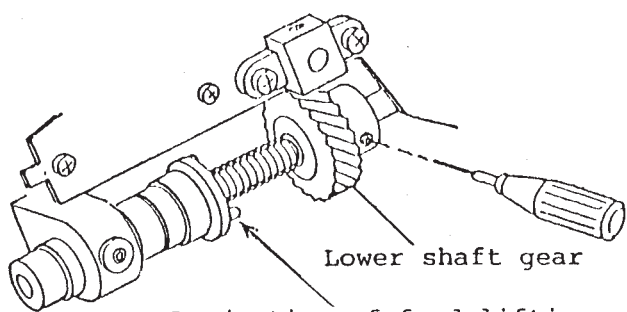
TO ADJUST THE HOOK TIMING (WITH GAUGE)

* Although the hook timing should be adjusted in accordance with the specification given on page 9, it can also be adjusted simply in the procedure given below.

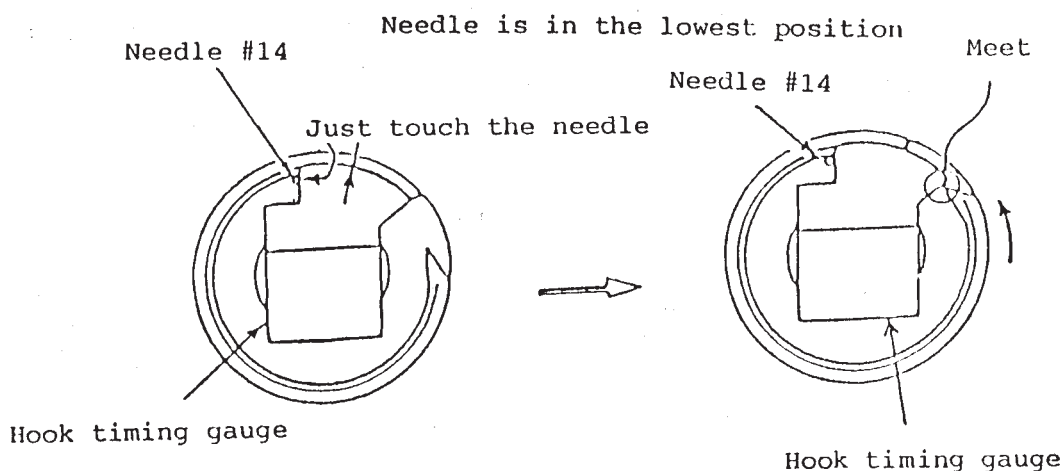
1. Remove the needle plate and bobbin holder.
2. Turn on the power switch and select the pattern [1].
3. Remove the top cover, belt cover and bed cover. (see pages 1, 2 and 3)
4. Turn the balance wheel toward you, and set the needle bar at the lowest position.
5. In this condition
 - * If the projection of feed lifting cam is in the lowest position, loose the set screws of lower shaft timing gear.
 - * If not, loose the screws of upper shaft toothed wheel.
6. Set the hook timing gauge to the hook so that the left side of the gauge just touch the needle. Then turn the lower shaft gear until the tip of shuttle hook meets with the right side of the gauge.
7. Tighten the set screws of lower shaft timing wheel or upper shaft toothed wheel.



Upper shaft toothed wheel



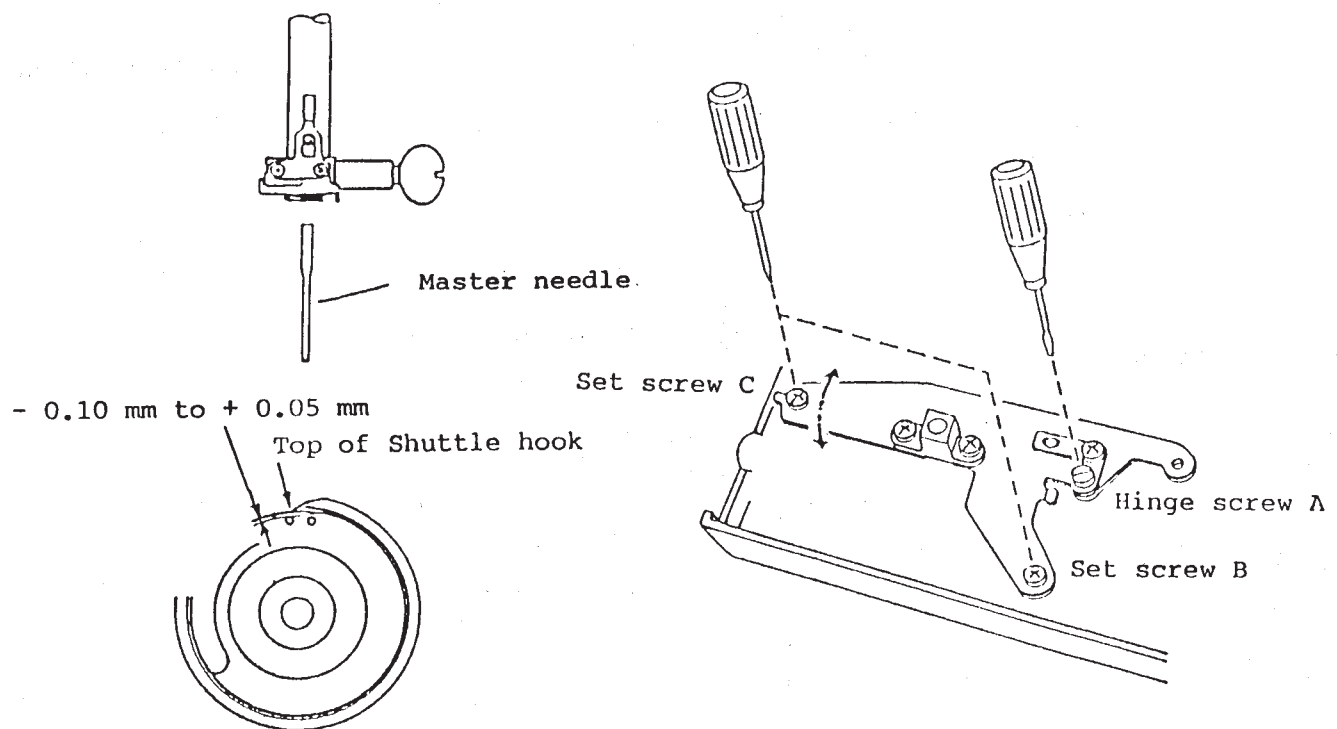
Projection of feed lifting cam



TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND HOOK

* The clearance between needle and shuttle hook should be $- 0.10$ to $+ 0.05$ mm.
If not, make an adjustment as follows:

1. Remove the needle plate and bobbin holder.
2. Replace the needle with master needle.
3. Turn on the power switch and select the pattern [$\approx$].
4. Loosen the set screws B and C, and slightly tighten the hinge screw A.
5. Turn the balance wheel and adjust the clearance between the master needle and the point of shuttle hook in the left and right needle positions to $- 0.1$ mm to $+ 0.05$ mm by moving the shuttle hook set plate up or down.
6. Tighten the set screws A, B and C.
7. Replace the master needle with the needle.
8. Insert the bobbin holder and attach the needle plate.

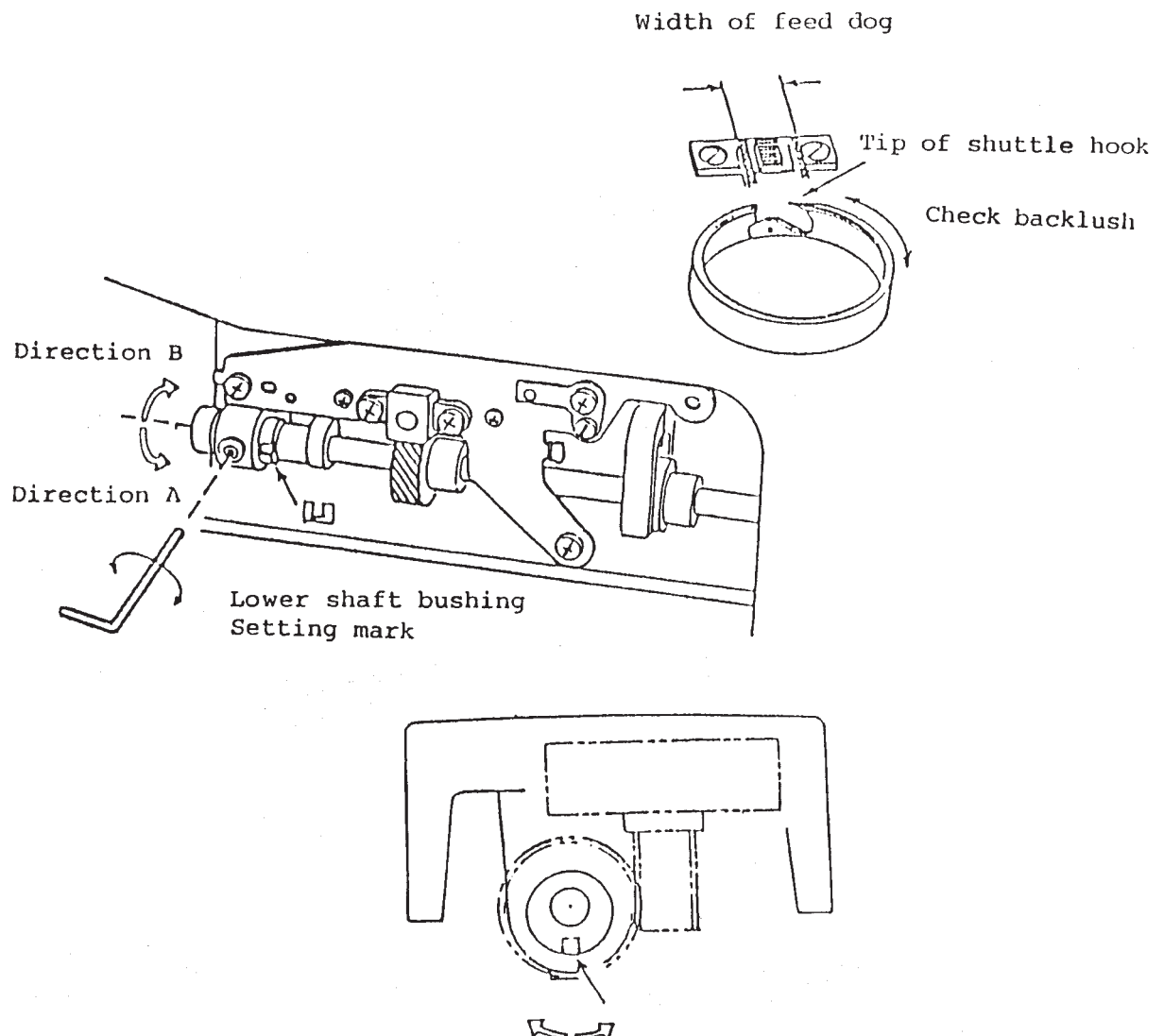


TO ADJUST THE BACKLASH OF HOOK DRIVE
GEAR AND LOWER SHAFT GEAR

* The backlash of gears should be smooth and should be less than 0.8 mm when the tip of shuttle hook is within the width of the feed dog as shown below.

1. Remove the bed cover. (see page 2)
2. Loosen the hexagon socket screw.
3. (A) If the backlash is too much, turn the lower shaft bushing in the direction A.
(B) If the backlash is not enough, turn the lower shaft bushing in the direction B.
4. Tighten the hexagon socket screw.
5. Attach the bed cover.

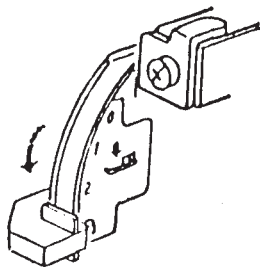
NOTE: After adjusting the backlash, be sure to check and adjust the "HOOK TIMING" and the "FEED DOG HEIGHT". (see pages 9 and 13)



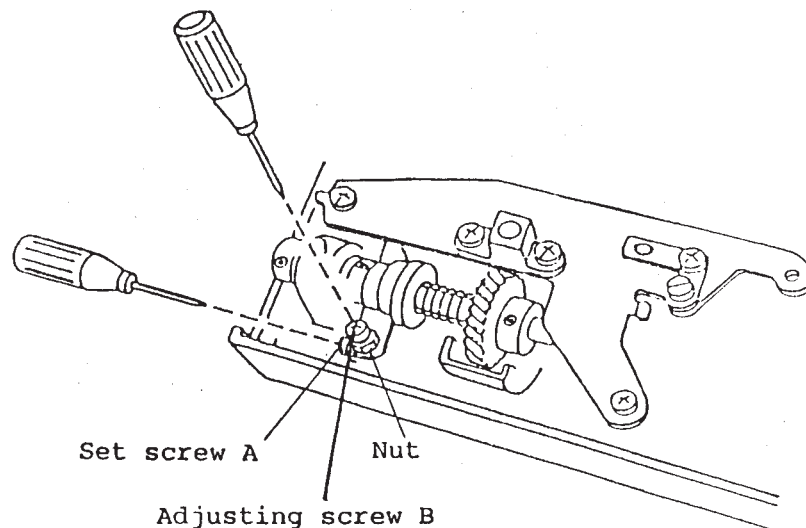
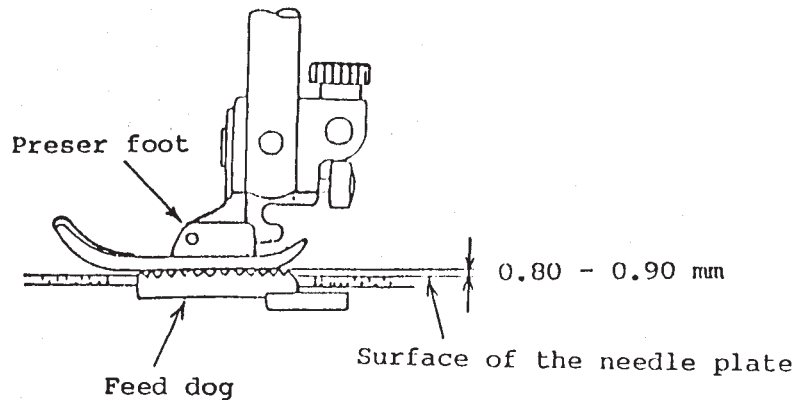
TO ADJUST THE FEED DOG HEIGHT

* When pressure adjusting lever is at "3" and the presser foot is lowered, the highest position of the feed dog should be 0.80 to 0.90 mm from the surface of the needle plate.

1. Set the pressure adjusting lever at "3" and the presser foot is lowered.
2. Turn on the power switch.
3. Turn the balance wheel toward you to get the highest position of feed dog.
4. Remove the bed cover.
5. Loosen the set screw A and nut.
6. Adjust the feed dog height to 0.80 mm to 0.90 mm by turning the adjusting screw B.
7. Tighten the nut and set screw A.
8. Attach the bed cover.



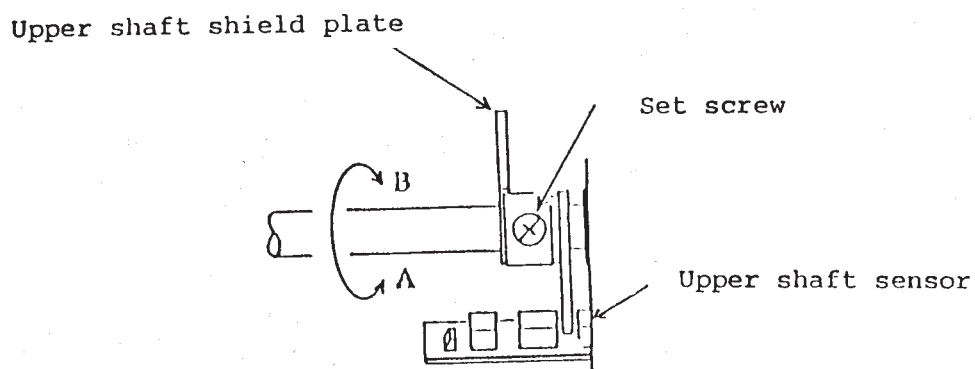
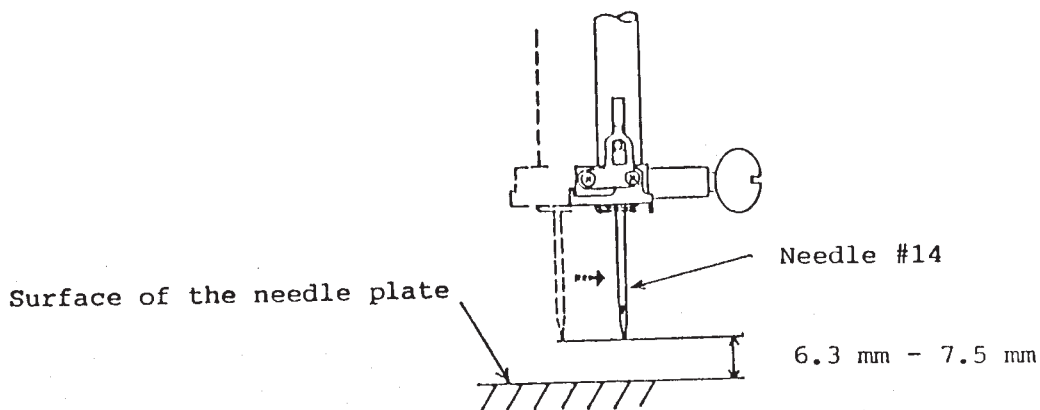
Pressure adjusting lever



TO ADJUST THE UPPER SHAFT SHIELD PLATE POSITION

* When the machine is set for zigzag stitching, the needle should be start to swing 6.3 mm to 7.5 mm above the surface of the needle plate.

1. Remove top cover.
2. Turn on the power switch and select the pattern [].
3. Turn the balance wheel toward you slowly with your hand until the needle starts to swing.
 - (A) If higher than 7.5 mm, loosen the set screws and turn the upper shaft shield plate in the direction of A.
 - (B) If lower than 6.3 mm, loosen the set screws and turn the upper shaft shield plate in the direction of B.
4. Push the upper shaft shield plate as close as possible to the left. (It should not touch the upper shaft sensor). Then tighten the set screw.
5. Turn the balance wheel toward you, and check the start swing.
6. Attach the top cover. (see page 1)

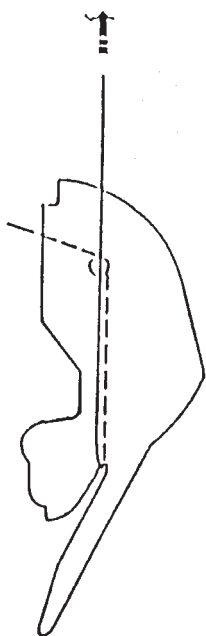


TO ADJUST THE UPPER THREAD TENSION

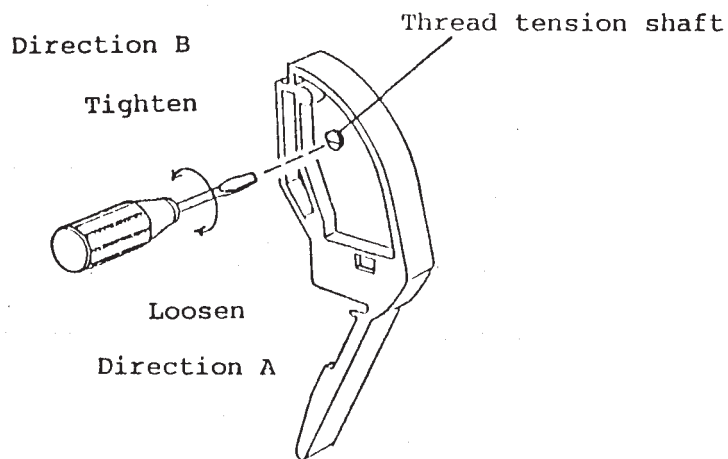
The standard of upper thread tension should be 60 g - 75 g when pulling the thread (cotton thread #50) in the direction of A with setting the tension dial at "AUTO". (Make sure the foot should be lowered)

1. Set the thread tension dial to "AUTO".
2. Open the face plate and adjust the thread tension by turning the thread tension shaft with a screw driver in the direction of:
A to loose the tension.
B to tighten the tension.
3. Close the face plate.

Pulling the cotton thread #50 to Direction of arrow.



Thread tension dial "AUTO"

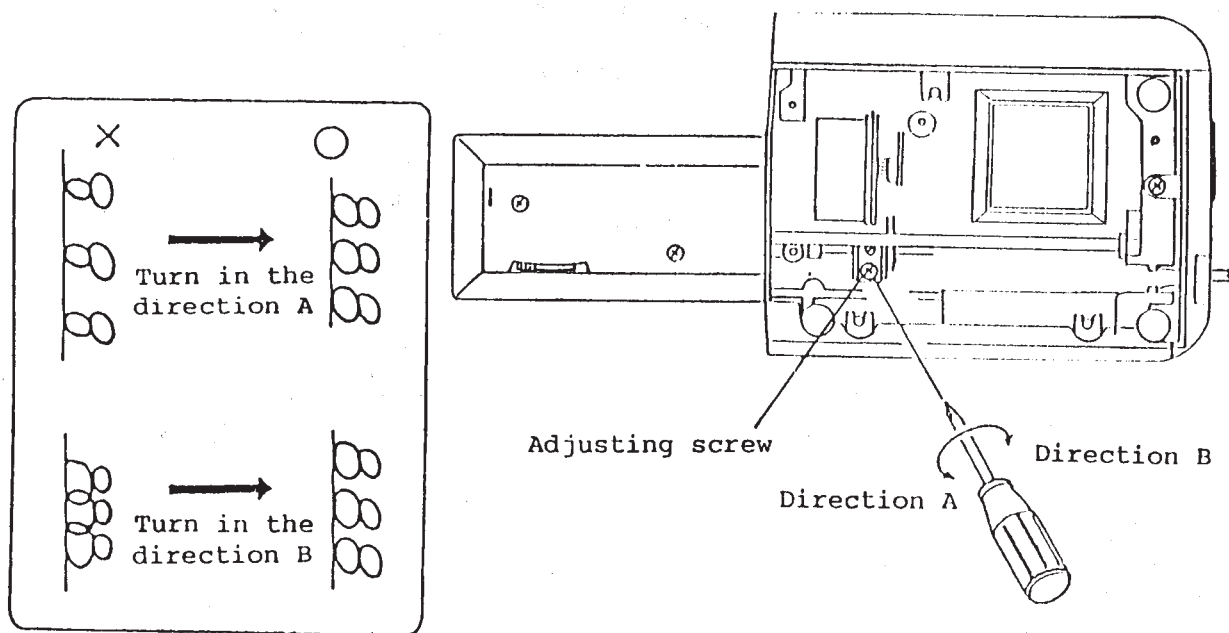
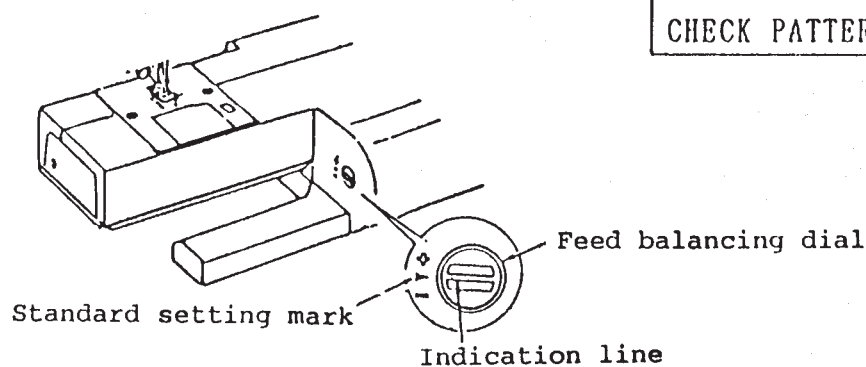


TO ADJUST THE STRETCH STITCH FEED BALANCE

* When pattern "8" is sewn with the feed balancing dial at the standard setting mark [►], the sewn pattern should be as indicated in the mark O in the following figure.

1. Set the adjustable pattern mode.
(Turn on the power switch with push and hold the reverse button, then choose the pattern #8 within 2.5 seconds will make the adjustable pattern mode - display on screen should be "CHECK PATTERN [8]").
2. Set the feed balancing dial at standard setting mark.
3. Depress the controller (Eight patterns "8" will sewn and stop automatically).
4. Remove the base. (see page 2)
5. Adjust the stretch stitch feed balance by turning the adjusting dial to direction A or B.
6. Attach the base.

NOTE: This adjustment can also made by remove base lid only, if you knew the position of adjusting screw.



TO REPLACE AND ADJUST THE NEEDLE THREADER PLATE

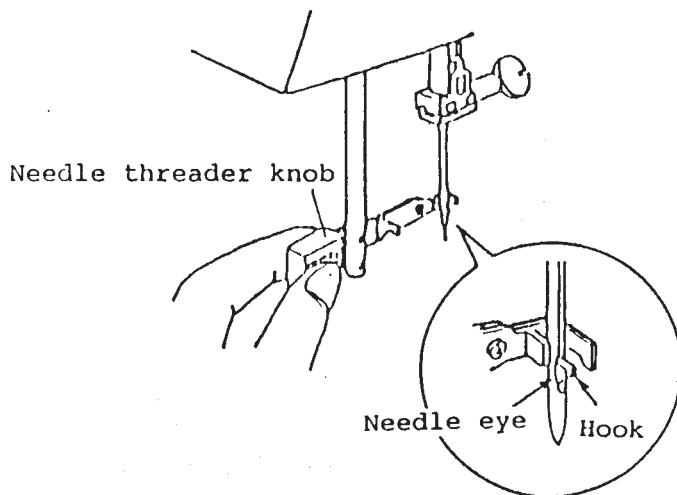
* When needle threader plate is broken or bent, replace it in following procedure;

<TO REPLACE>

1. Turn the balance wheel toward you until the needle bar to its highest position and lower the needle threader knob as far as it will go.
2. Loosen the set screw A and replace needle threader plate. (Illust. A)

<TO ADJUST>

3. When the hook is touch the right side or left side of needle eye, loosen set screw A and move the needle threader plate. (Illust. B)
4. When the hook is touch the top or bottom of needle eye, loosen set screw B and move the position set plate. (Illust. C)



<To replace the needle threader plate>

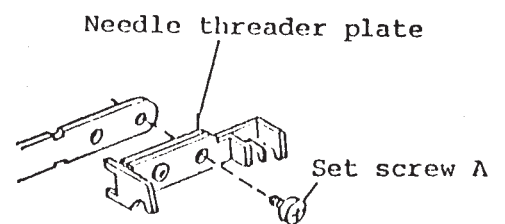


Illustration A

<Adjustment of up/down>

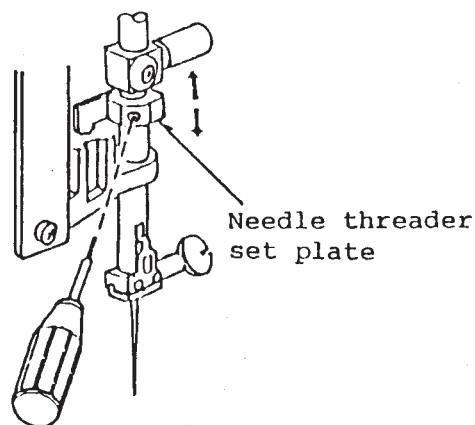


Illustration C

<Adjustment of right/left>



Illustration B

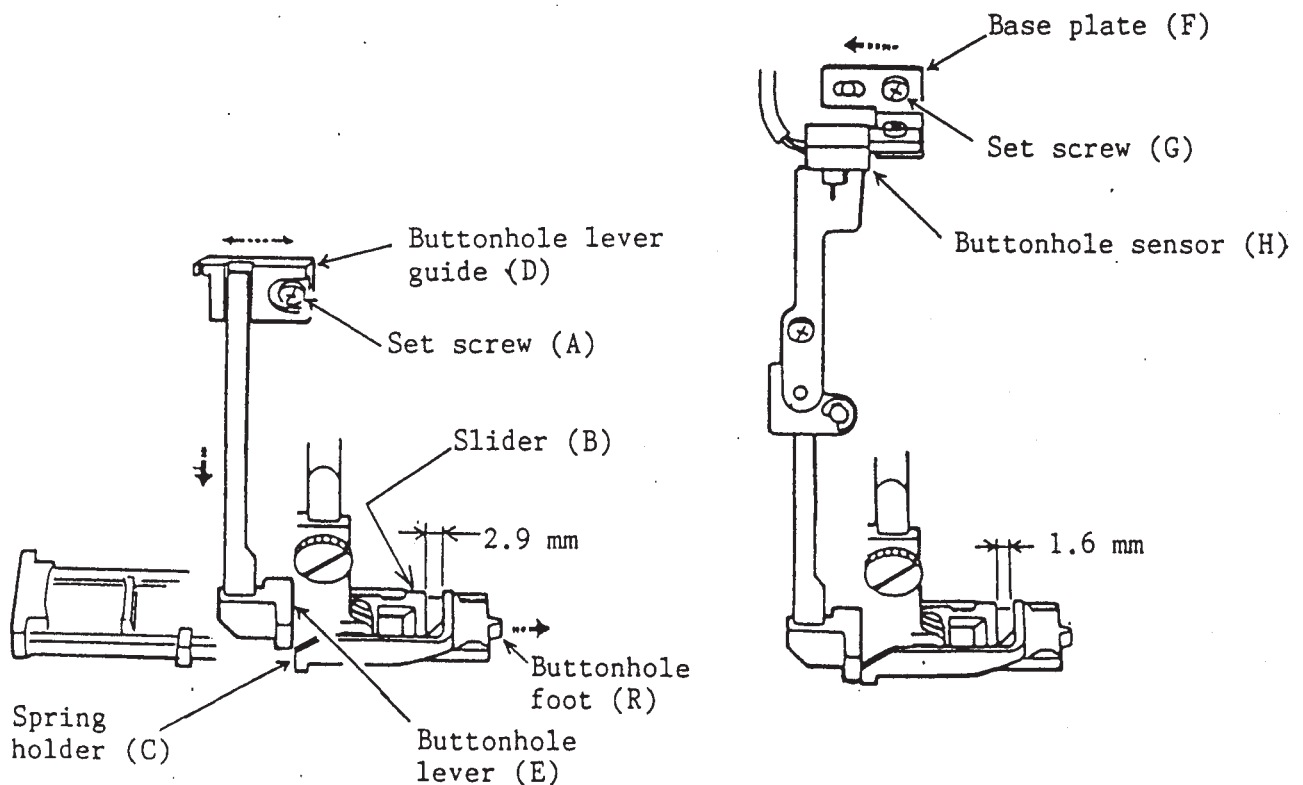
TO ADJUST THE POSITION OF BUTTONHOLE LEVER AND SENSOR

A) Buttonhole lever

1. Attach the automatic buttonhole foot (R).
2. Loosen the set screw (A) and leave the clearance of 2.9 mm between the spring holder and slider (B) by moving the buttonhole lever guide (D). In this condition, the buttonhole lever (E) should touch the spring holder (C) slightly.
3. Tighten the set screw (A).

B) Buttonhole sensor

1. Turn the power switch on while pressing the reverse button. Then press BH1 at once. "Sensor Check H or L" will appear on the screen.
2. Lower the buttonhole lever (E). Then leave the clearance of 1.6 mm between the slider (B) and spring holder (C).
3. Loosen the set screw (G) and move the base plate (F) from the right to left slowly. Tighten the set screw (G) at the position where the screen message changes from "Sensor Check L" to "Sensor Check H". Then tighten the set screw (G).
4. When the clearance between the spring holder (C) and slider (B) is:
1.4 mm, "Sensor Check H" appears on the screen.
1.8 mm, "Sensor Check L" appears on the screen.



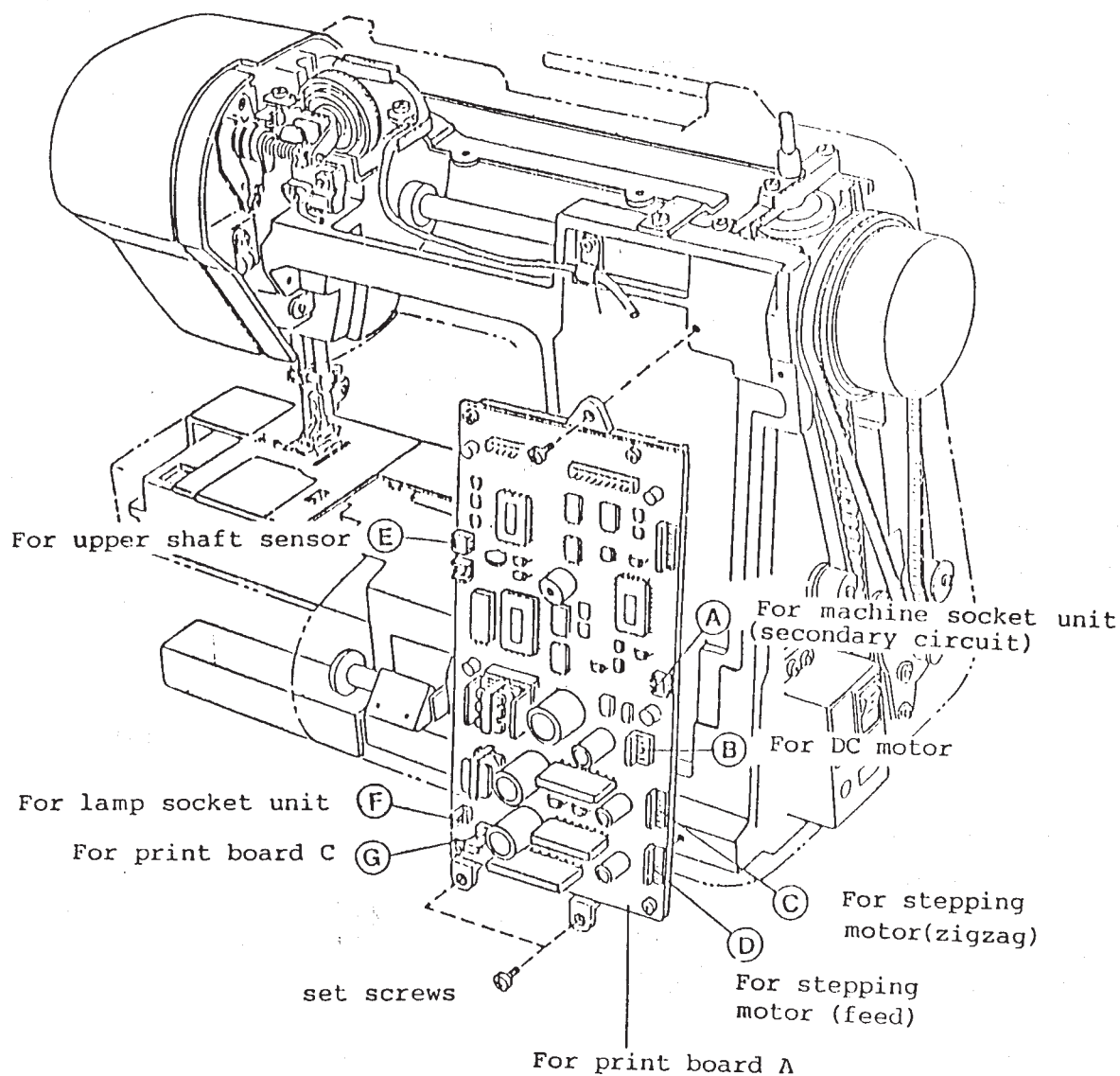
1. PRINT BOARD A

<TO REMOVE>

1. Remove the front panel unit. (see page 4)
2. Pull out the seven (7) connectors from print board A.
3. Remove three (3) set screws and remove the print board A.

<TO ATTACH>

4. Attach the print board A with three (3) set screws.
5. Insert seven (7) connectors respectively.
6. Attach the front panel unit.



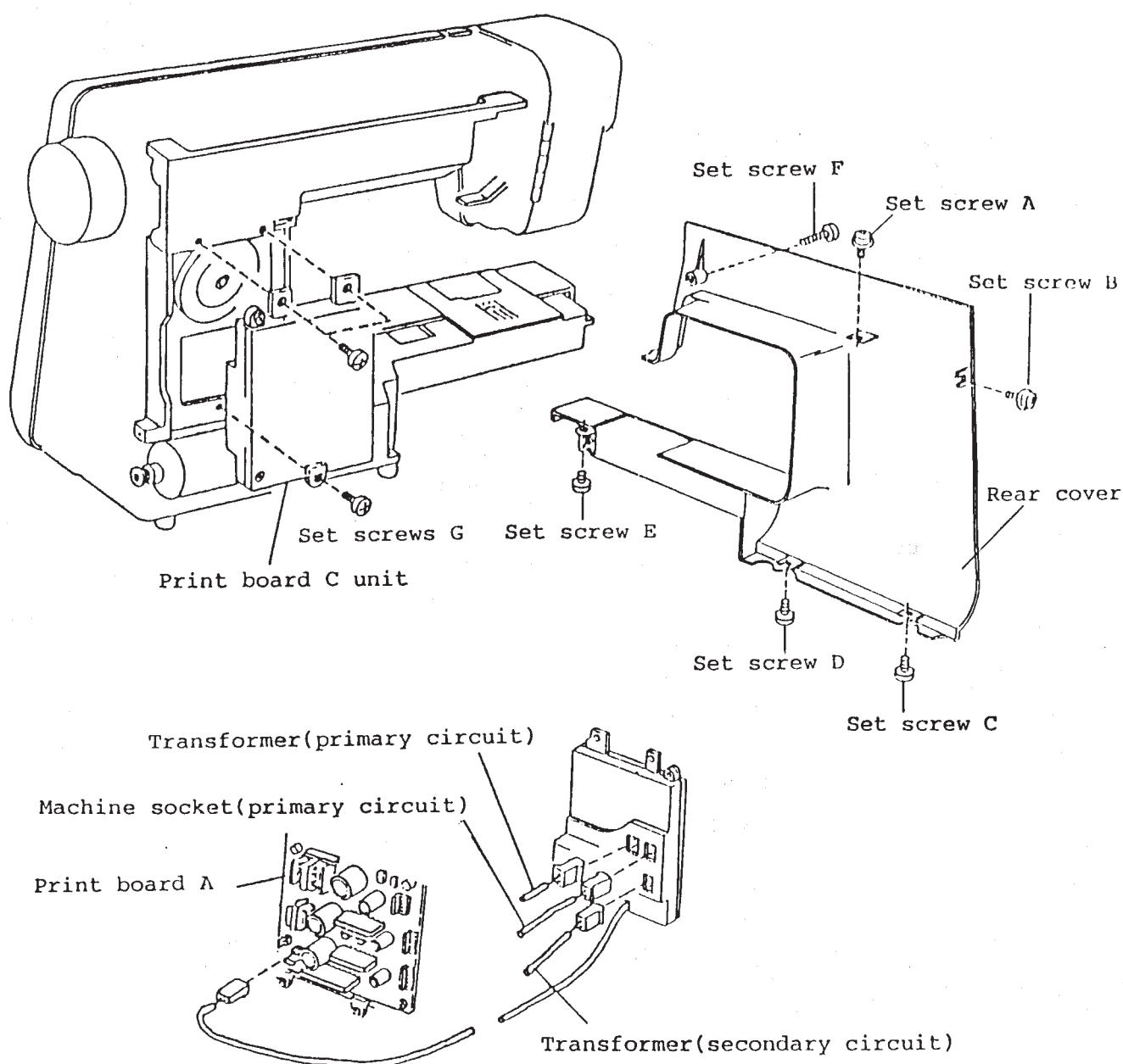
1. PRINT BOARD C UNIT

<TO REMOVE>

1. Remove the front panel unit. (see page 4)
2. Loosen screws A, B, C and D, and remove set screw E and F.
3. Remove the rear cover.
4. Pull out the four(4) connectors and remove set screws G.
5. Remove print board C unit.

<TO ATTACH>

6. Attach the print board C unit with three (3) screws and insert the connectors.
7. Attach the rear cover with six (6) set screws.
8. Attach the front panel unit.



1. PRINT BOARD C OR FUSE

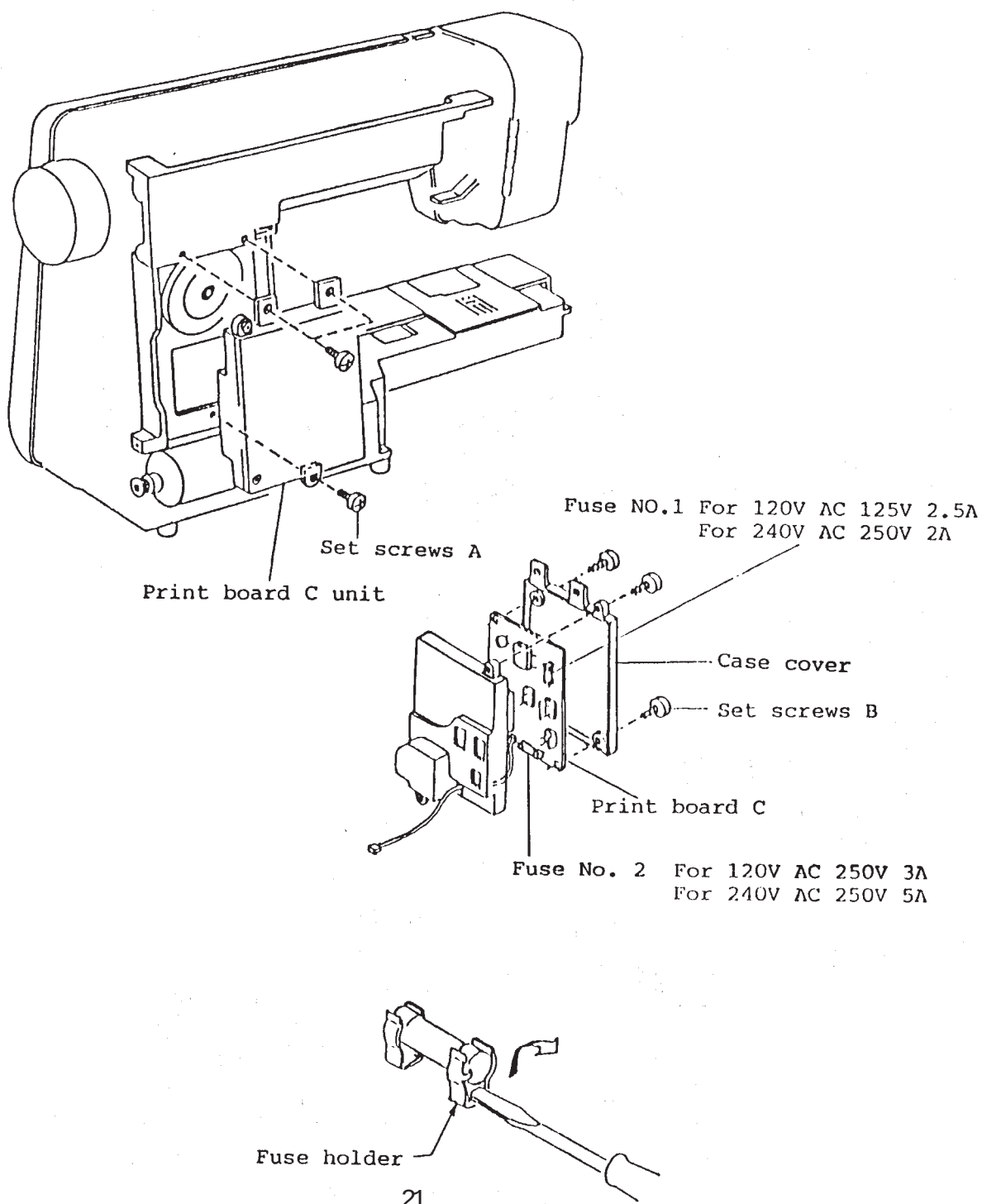
<TO REMOVE>

1. Remove the rear cover.
2. Remove three (3) set screws A and print board C unit. (see page 20)
3. Remove three (3) set screws B and remove case cover.
4. Replace fuse or print board C.

<TO ATTACH>

5. Attach the case cover with three (3) set screws B.
6. Attach the print board C unit with three (3) set screws A.
7. Attach the rear cover.

NOTE: To replace fuse, push out from fuse holder with driver as shown in below.
Two specified fuses are used for print board C respectively.



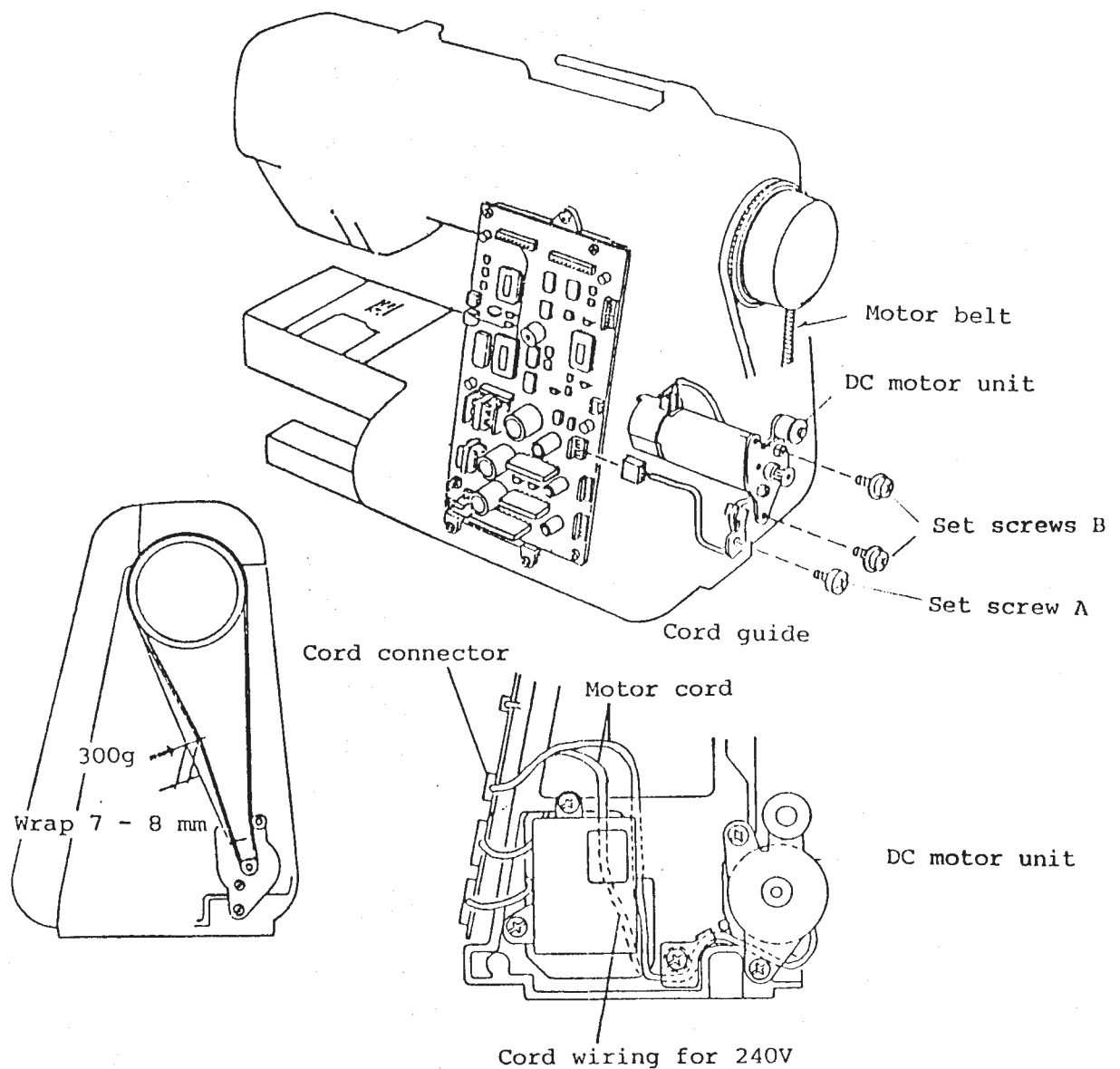
1. DC MOTOR

<TO REMOVE>

1. Remove the front panel unit.(see page 4)
2. Remove the machine socket unit.(see page 24)
(No need to pull out the connector)
3. Remove the motor belt, set screw A and cord guide.
4. Pull out the connector of motor cord from the print board A.
5. Remove the set screws B and DC motor.

<TO ATTACH>

6. Attach the DC motor by tightening the two set screws B slightly.
7. Insert the connector and attach the cord guide with set screws A.
8. Attach the motor belt and adjust the belt tension.
9. Attach the front panel unit.



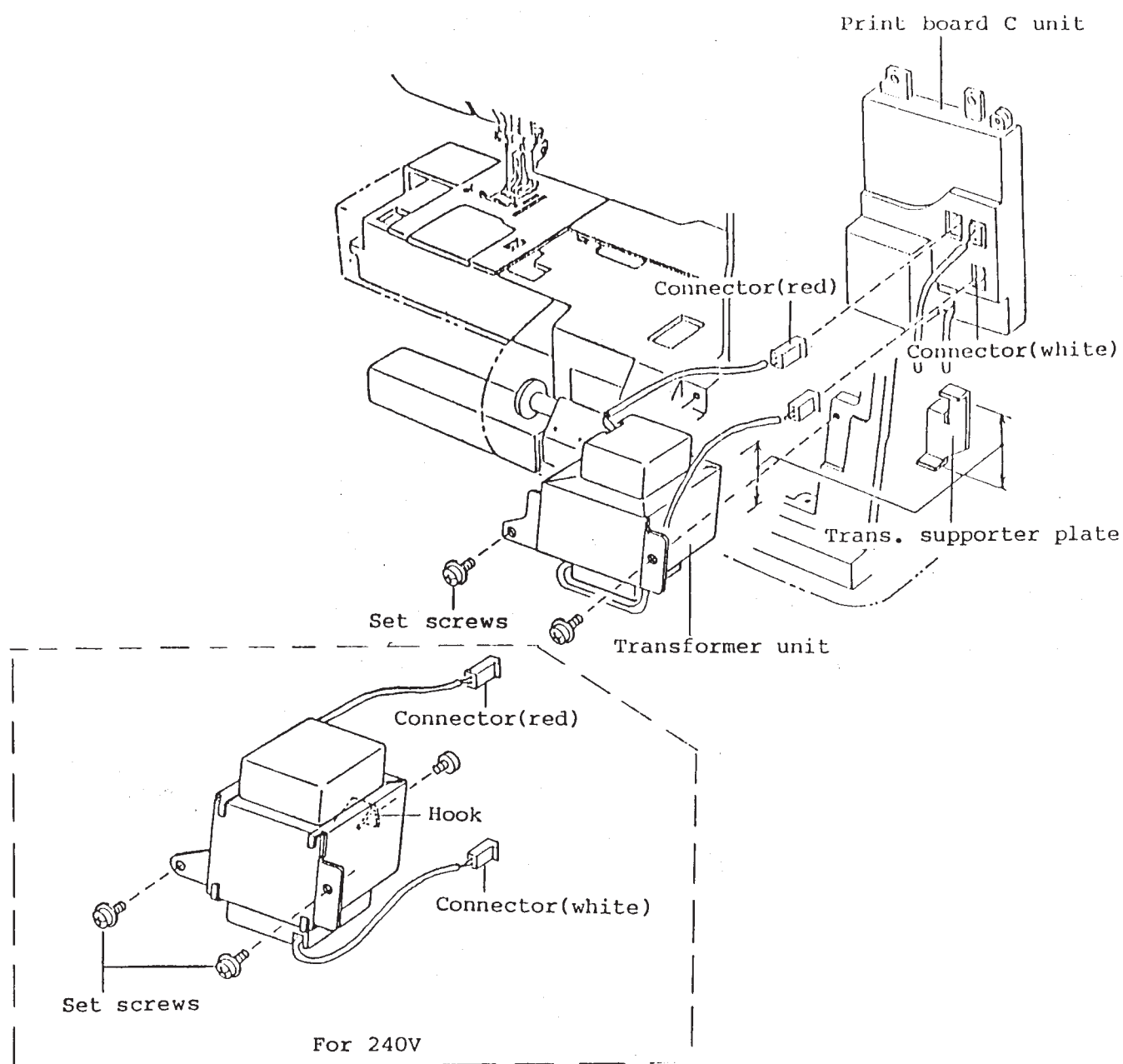
1. TRANSFORMER UNIT

<TO REMOVE>

1. Remove the front panel unit. (see page 4)
2. Remove the print board A unit and print board C unit. (see pages 19 and 20)
3. Pull out the connectors for transformer from the print board C unit.
4. Remove set screws and transformer.

<TO ATTACH>

5. For 120V Attach the transformer unit with supporter plate and two (2) set screws.
For 240V Attach the transformer unit with three (3) set screws.
(2 for transformer and 1 for hook)
6. Insert the connectors to print board C.
7. Attach the print board C unit, print board A unit and front panel unit.



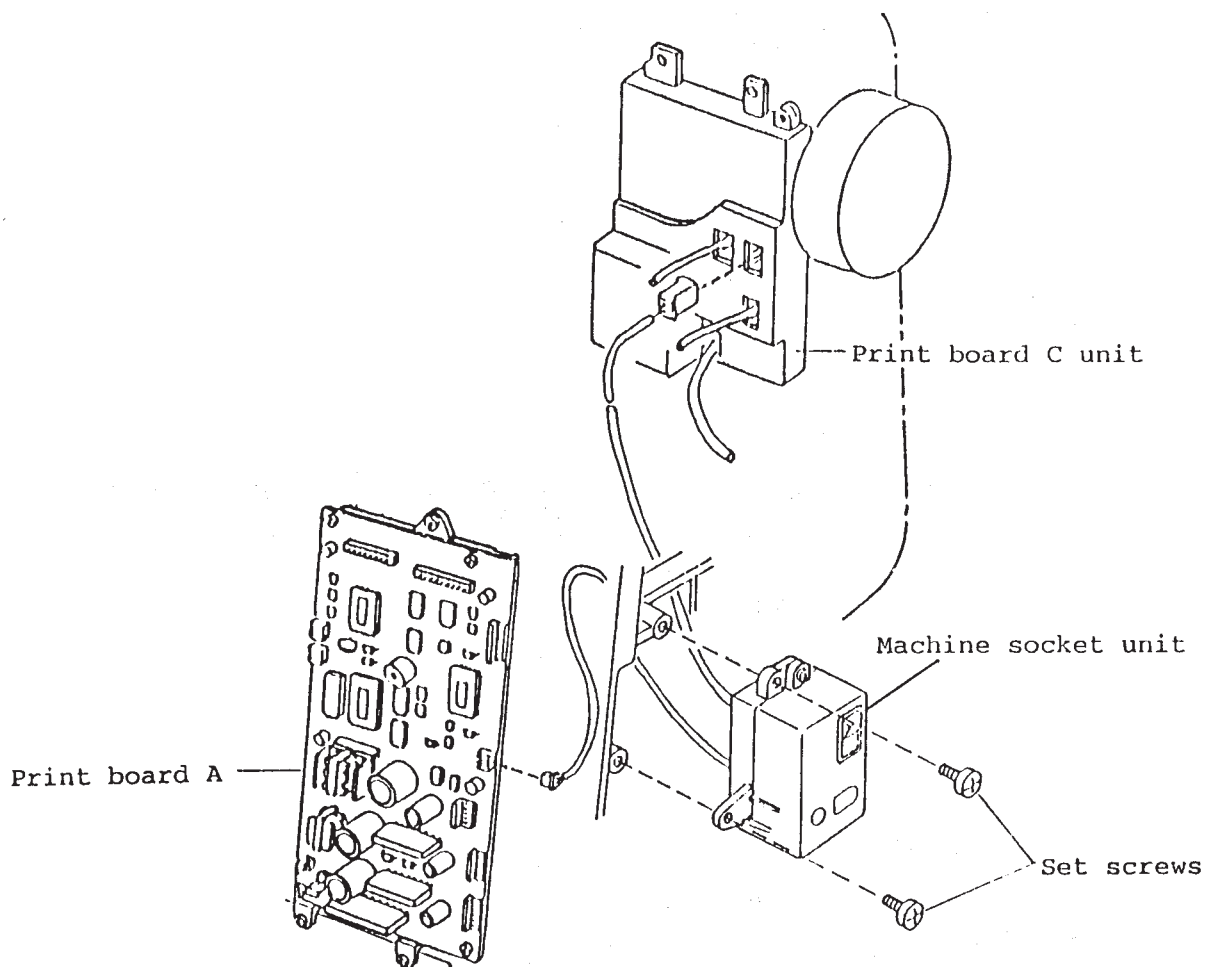
1. MACHINE SOCKET UNIT

<TO REMOVE>

1. Remove the front panel unit and the rear cover. (see pages 4 and 20)
2. Remove the print board C unit. (see page 20)
3. Pull out the connectors of machine socket from print board A and C.
4. Remove two set screws A and the machine socket unit.

<TO ATTACH>

5. Attach the machine socket with two (2) set screws A.
6. Attach the print board C unit.
7. Attach the rear cover and front panel unit.



1. BH LEVER

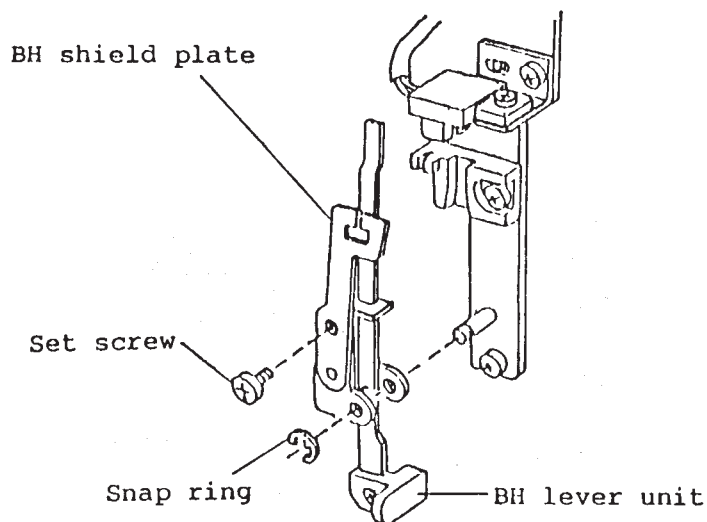
<TO REMOVE>

1. Remove the set screw and BH shield plate.
2. Remove the snap ring.
3. Pull the BH lever toward you, and remove it.

<TO ATTACH>

4. Insert the shaft into the holes of the BH lever unit (with the BH shield plate removed), and attached the BH lever with the snap ring.
5. Attach the BH shield plate with the set screw.

NOTE: After changing the BH lever unit, "adjust the BH lever" (see page 18)



1. PRINT BOARD K

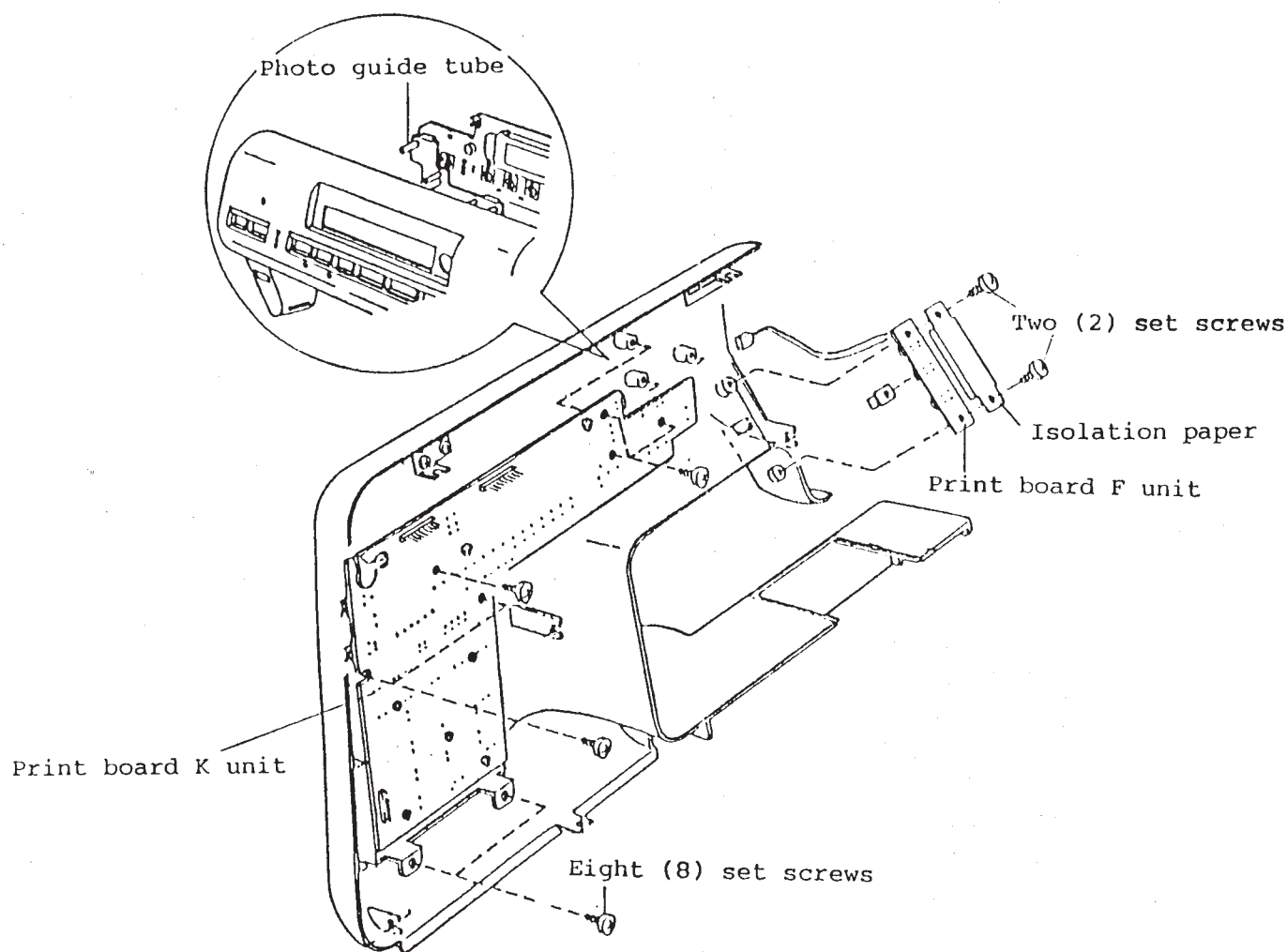
<TO REMOVE>

1. Remove the front panel unit.(see page 4)
 2. Remove eight (8) set screws.
 3. Pull out the connector of print board F and remove the print board K.
- <TO ATTACH>
4. Insert the photo guide tube between front panel and print board K and set them with eight (8) set screws.
 5. Insert the connector of print board F to print board K.

2. PRINT BOARD F

<TO REMOVE>

6. Remove the front panel unit.(see page 4)
 7. Remove the two (2) set screws.
 8. Pull out the connector of print board K and remove the print board F.
- <TO ATTACH>
9. Insert the reverse button into the front panel and set the print board F with two (2) set screws and isolation paper.
 10. Insert the connector of print board F to print board K.
 11. Attach the front panel unit.



1. BH SENSOR UNIT

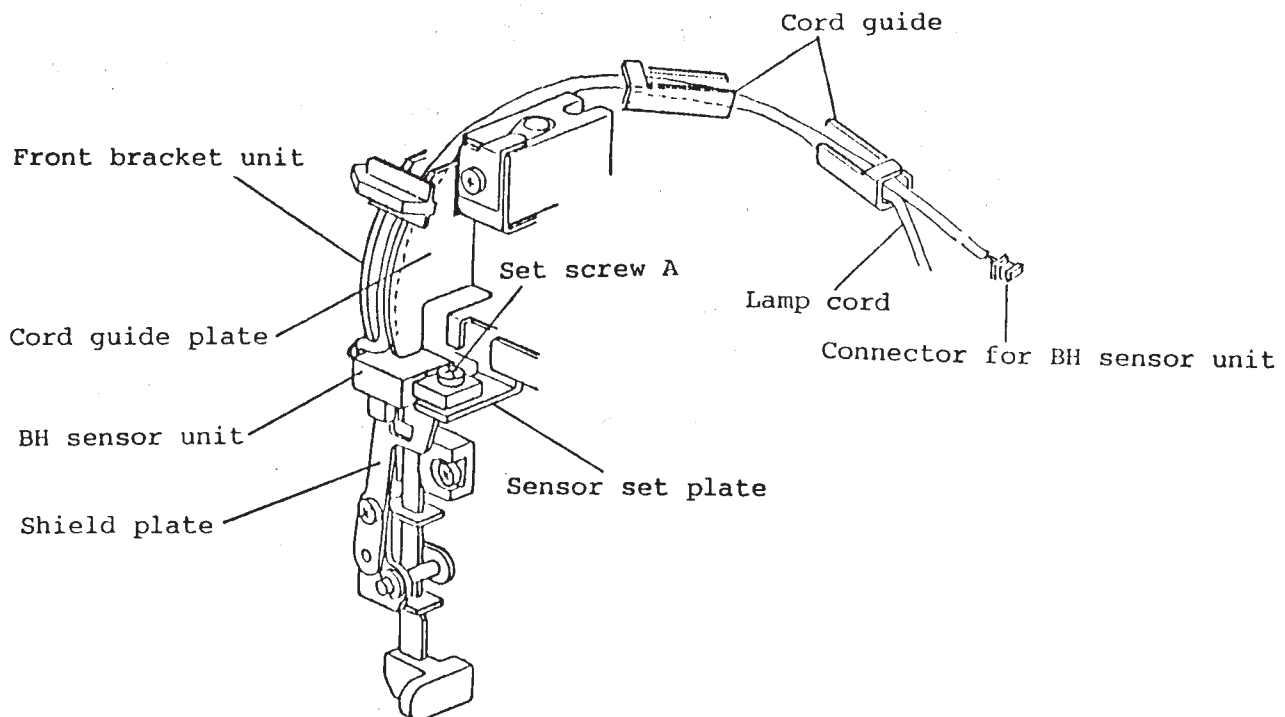
<TO REMOVE>

1. Remove the front panel.(see page 4)
2. Remove set screw A and remove the BH sensor unit from sensor set plate.
3. Pull out the connector of BH sensor unit from the print board K unit.
4. Pull out the cord of BH sensor unit from cord guide and remove the BH sensor unit.

<TO ATTACH>

5. Insert the cord of BH sensor unit through between front bracket unit and cord guide plate and two cord guide.
6. Insert the connector of BH sensor unit to print board K unit.
7. Attach the BH sensor unit to the sensor set plate and adjust to the position which shield plate does not touch in its motion to BH sensor unit.
8. Tighten the set screw A.
9. Attach the front panel unit.

NOTE: When replace the BH sensor unit, adjust "BH lever"(see page 18)

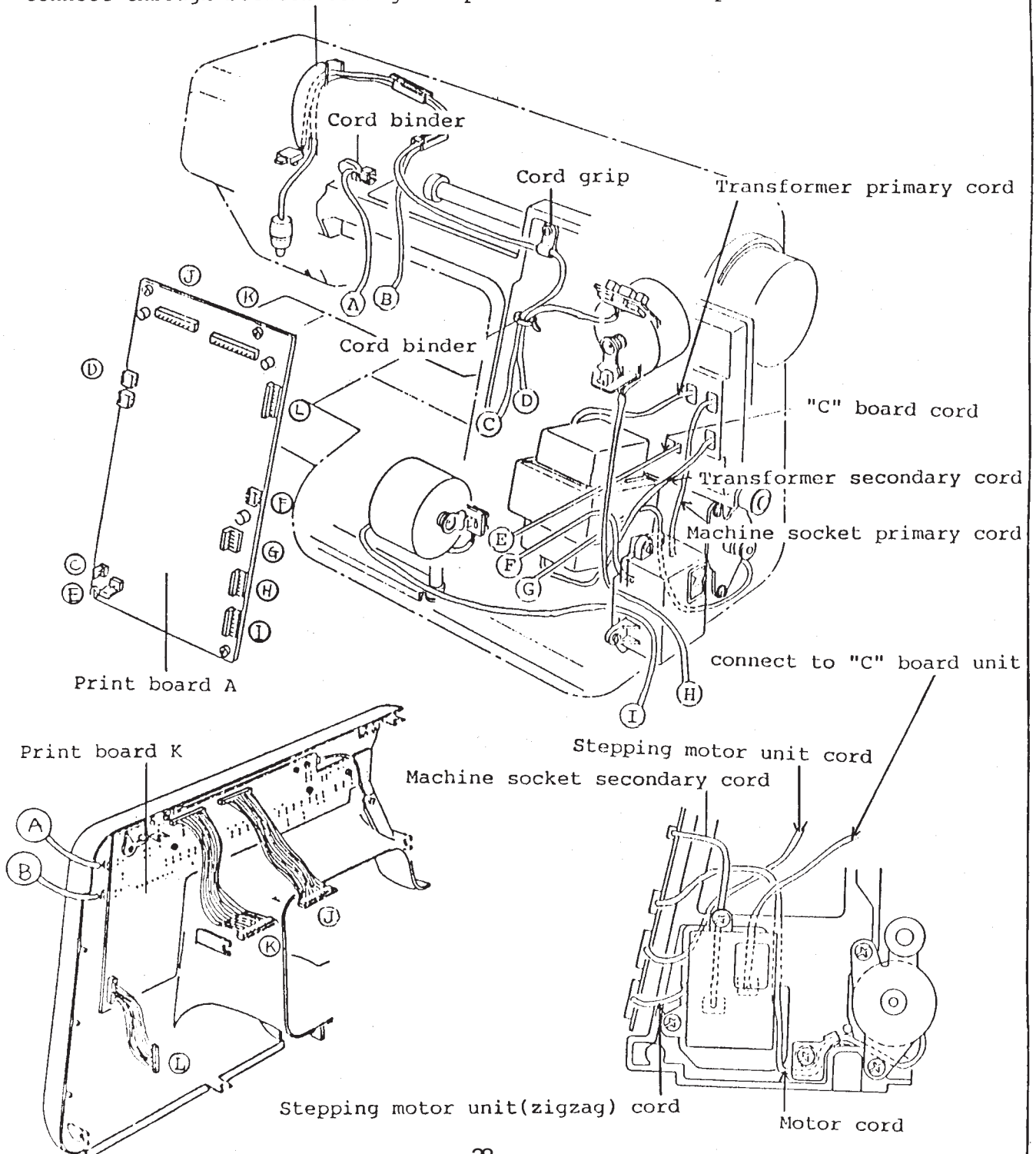


WIRING DIAGRAM

*The connectors of the electrical components should be connected to the respective positions shown in the figure below.

- | | |
|---------------------------------------|---------------------------------|
| (A) Thread tension switch | (G) DC motor unit |
| (B) BH sensor | (H) Stepping motor unit(zigzag) |
| (C) Lamp socket unit | (I) Stepping motor unit(feed) |
| (D) Upper shaft sensor | (J) "K" board unit |
| (E) "C" board unit | (K) "K" board unit |
| (F) Machine socket(secondary circuit) | (L) "K" board unit |

Connect through between cord guide plate and front set plate



Diagnosis Chart

[CHECK OPERATION 1]

If nothing is happened on the machine when turn on the power switch.
Turn off the power switch and do following steps.

- Step 1. Check all wire connections and recheck.
- Step 2. Replace the machine socket and recheck.
- Step 3. Replace the print board A and recheck.
- Step 4. Replace the print board D and recheck.
- Step 5. Replace the transformer unit and recheck.

If lamp bulb does not light when turn on the power switch.
Turn off the power switch and do following steps.

- Step 1. Replace the lamp bulb and recheck.
- Step 2. Replace the print board A and recheck.

If LCD(LIQUID CRYSTAL DISPLAY) shows nothing when turn the power switch on.
Turn off the power switch and do following steps.

- Step 1. Replace LCD unit and recheck.
- Step 2. Replace print board K unit and recheck.
- Step 3. Replace print board A unit and recheck.

NOTE: Be cautions in checking operation the machine may suddenly start running.
Turn off the power switch when replace the part.
Recheck after replacing defective parts at any steps.

[CHECK OPERATION 2] - Use diagnosis chart

Preparation:

- 1. Turn off the power switch.
- 2. Set the bobbin winder spindle to the left.
- 3. Shift speed setting slide lever to the left.
- 4. Detach the presser foot and raise the presser foot lever.
- 5. Move needle bar to up position.
- 6. Connect the foot controller.

If defect was found on Step 01, do not forward to further steps.
Turn off the power switch and do following steps.

- Step 1. Replace LCD unit and recheck.
- Step 2. Replace print board K and recheck.
- Step 3. Replace print board A and recheck.

If defect was found on step 02, can not forward to further steps.
Turn off the power switch and do following steps.

- Step 1. Replace print board F and recheck.
- Step 2. Replace print board K and recheck.
- Step 3. Replace print board A and recheck.

NOTE: To forward to further steps, push "EDIT" button if correct condition was get and push "MESSAGE" button if defect condition was get.

Diagnosis Chart

Steps	Test Operation	Correct Condition	Defect Condition & Correction
(01)Step LCD, LED Test	Turn on the power switch while pressing "Reverse" then press "Edit" within 2.5 seconds.	1. LCD shows { Test mode} 2. Buzzer sounds. 3. LCD shows {Self-check Start} 4. Buzzer sounds 5. All the LCD(total 16) will light from left side 6. All LCD will go off when all the LCD was lighted 7. LED will light one by one from top & left side	Could not get Test mode Replace following parts and recheck 1. Print board F 2. Print board K 3. Print board A
(02)Step Key Test	Push "Reverse Stitch", "Auto-Lock", "U/D", "Mode", "Twin" "Edit", "Stitch Width", "Stitch Length", "Message" and Keys (following to 10 - 14, 15 - BH3, 1-3, MEM - 6, 7 - 9, TOM - C)	1. Buzzer sounds 2. LCD shows {Key} 3. Each time you press the key, buzzer sounds.	Buzzer does not sound when you press the key. Replace the following parts and recheck. 1. Print board F 2. Print board K 3. Print board A
(03)Step BH Sensor Test	1. Pull down the BH lever 2. Move the BH lever to front and back.	1. Buzzer sounds and LCD shows {BH Sensor}. 2. LED for Twin needle button will flash	Not working correctly Replace the following parts and recheck. 1. BH Sensor unit 2. Print board K 3. Print board A
(04)Step Bobbin Wind Switch Test	1. Shift bobbin winder spindle to right. 2. Shift bobbin winder spindle to left.	Each time Buzzer sounds and LCD shows {Spool}.	Not working correctly. Replace the following parts and recheck. 1. Print board K 2. Print board A
(05)Step Upper Shaft Positioning Sensor Test	Turn the balance wheel toward you to get the needle bar at the highest position and the lowest position	1. Buzzer sounds and LCD shows {PH Sensor} 2. LED for "Twin Needle" either "Edit" will light alternately.	Not working correctly Replace the following parts and recheck. 1. Upper shaft sensor unit. 2. Print board A
(06)Step Stepping motor (Zigzag) Test	Turn the balance wheel towards you to get needle bar at the highest position.	1. Buzzer sounds and LCD shows {Bight Motor}. 2. Stepping motor(zigzag) get default position.	Not working correctly Replace the following parts and recheck. 1. Stepping Motor(Zigzag) Unit 2. Print board A
(07)Step Stepping motor (length) Test	Turn the balance wheel towards you to get needle bar at the lowest position.	1. Buzzer sounds and LCD shows {Feed Motor}. 2. Stepping motor(length) get default position.	Not working corectly Replace the following parts and recheck. 1. Stepping motor(length) Unit 2. Print board A
(08)Step Foot Controller Test	Press foot controller fully and release it	1. Buzzer sounds and LCD shows {Controller}. 2. Buzzer sounds when fully press and release the foot controller.	Not work correctly Replace the following parts and recheck 1. Foot controller unit 2. Machine socket unit 3. Print board A
(09)Step Speed setting slide lever test	1. Shift the speed setting slide lever to right 2. then turn back to left	1. Buzzer sound and LCD shows {Volume} 2. Buzzer sounds when speed setting lever is on the furhter left position and further right position.	Not working correctly Replace the following parts and recheck. 1. Print board K 2. Print board A
(10)Step Machine motor test	Press "Mode" button	1. Buzzer sounds and LCD shows {DC Motor} 2. Needle bar stops at the highest position after machine runs slow, and fast.	1. Not stop at the highest position or running at uneven speed. Replace DC motor unit or print board A. 1. Except defect condition above. Replace the following parts and recheck 1. DC Motor 2. Print board C unit 3. Transformer unit

NOTE: When all steps has done, LCD shows {Self-Check END}.
 Press "Edit" button, LCD will shows the result with buzzer.
 IF the result is correct condition --- LCD shows {Check OK!!}
 IF the result is incorrect condition --- LCD shows {Error - A}(Exam.)
 A means Print board A, Each alphabet has meaning as follows;
 B -- BH Sensor, C -- Foot Controller, D -- DC Motor
 K -- Print board K, P -- Upper shaft positioning sensor
 R -- Machine socket, X -- Stepping motor(zigzag)
 Y -- Stepping motor(length)

HOW TO SELECT LANGUAGE OF SCREEN MESSAGE ON MC4000

1. Remove the front panel unit (See page 4 of the service manual for MC4000).
2. Set the switches by using the end of a lint brush as follows (Do not touch the 3 switches from the top on DSW-1):

A) Part No. 829606201 for French and English Version

- a) French: Set the bottom of DSW-1 at "D" and DSW-2 at "A".
- b) English: Set the bottom of DSW-1 at "C" and DSW-2 at "A".

B) Part No. 829606500 for German and Spanish Version

- a) German: Set the bottom of DSW-1 at "C" and DSW-2 at "A".
- b) Spanish: Set the bottom of DSW-1 at "D" and DSW-2 at "A".

