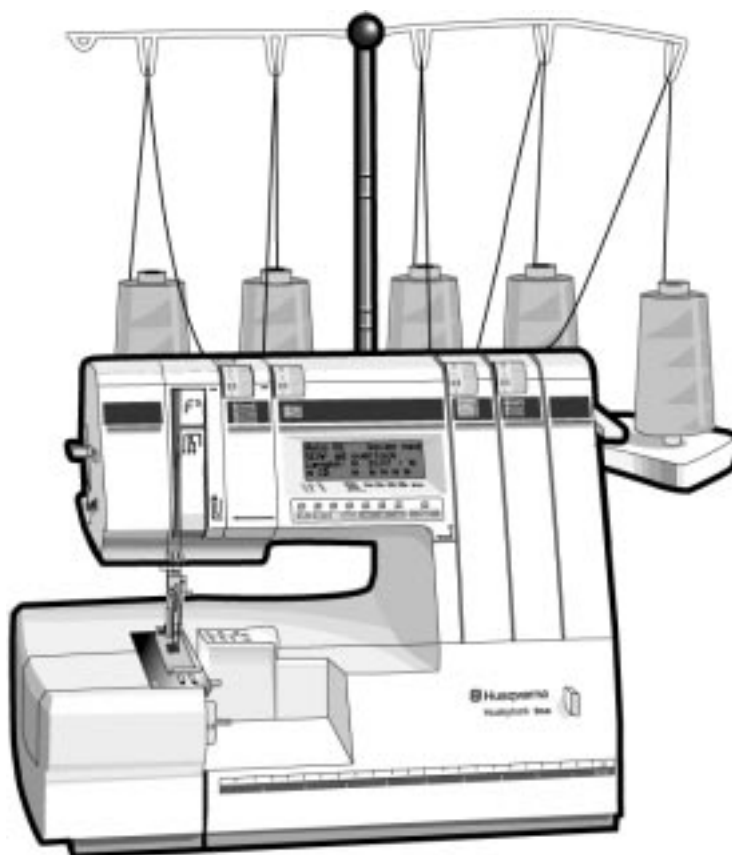


SERVICE MANUAL



HUSKYLOCK MODEL 936

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DIRECTIONS FOR USE

These service instructions are intended to be used by service workshop personnel, or by salesmen who carry out servicing their own districts. They assume a thorough knowledge of the handling of precision appliances and accessibility to service tools.

The manual is divided into two sections and covers all service operations and checks which should be carried out when making a complete overhaul of a overlock machine.

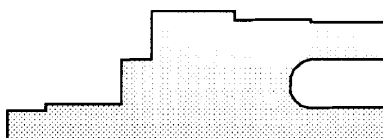
Before carry out any setting always make sure that the machine is not connected to mains.

SPECIFICATION

Type of sewing	5-thread overlock sewing with 5 needles
Needles	130/705H # 75 - 90
Stitch length	Maximum: 5,0 mm Minimum: 0.8 mm
Cutting width	~ 7.0 mm
Presser foot lifter	Lever type
Motor	Built-in the body
Sewing speed	1300 ± 80

SERVICE TOOLS

1. Gauge
Ref. No 415 53 69-01.



2. Gauge
Ref. No 2150009-215



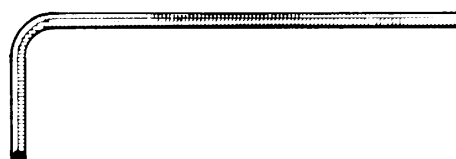
3. Distance gauge
Ref. No 412 38 85-01



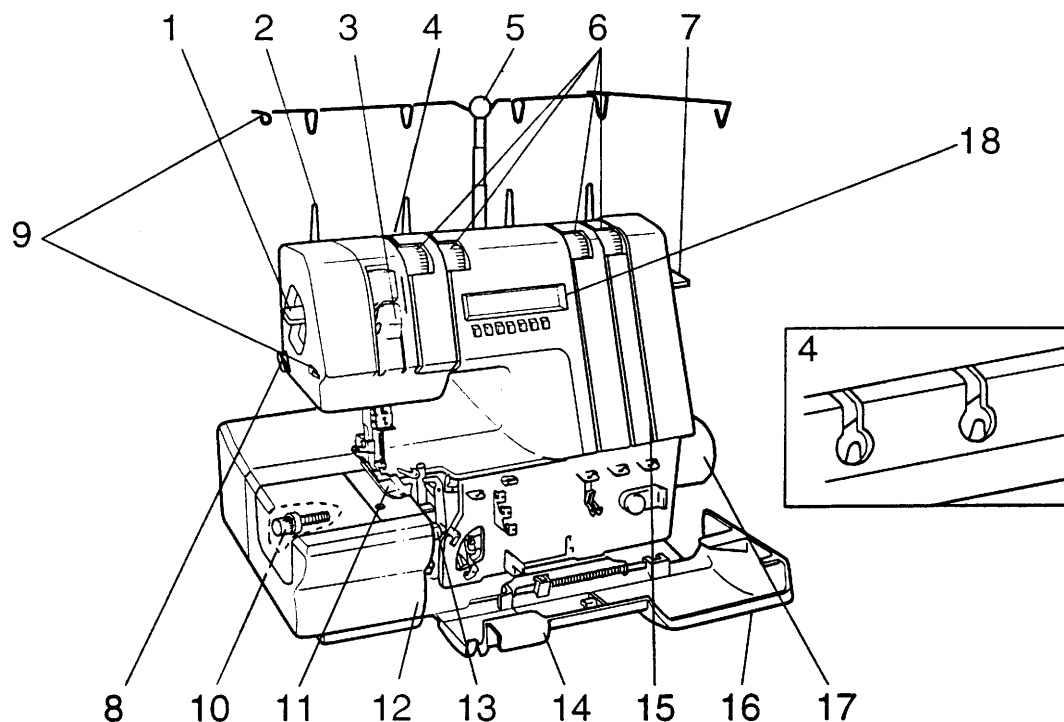
4. Adam key 2.5 mm
Ref. No 411 86 01-01

5. Adam Key 2 mm
Ref. No 411 86 00-01

6. Adam Key 1,5 mm
Ref. No 411 66 89-01

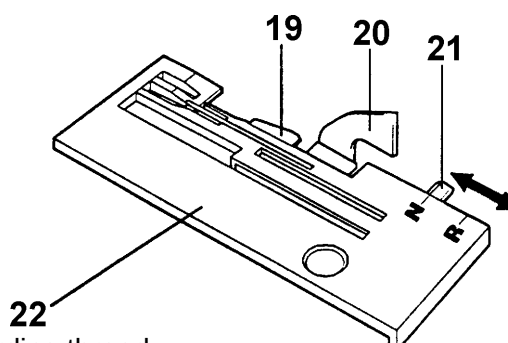


MACHINE PARTS



Model 936

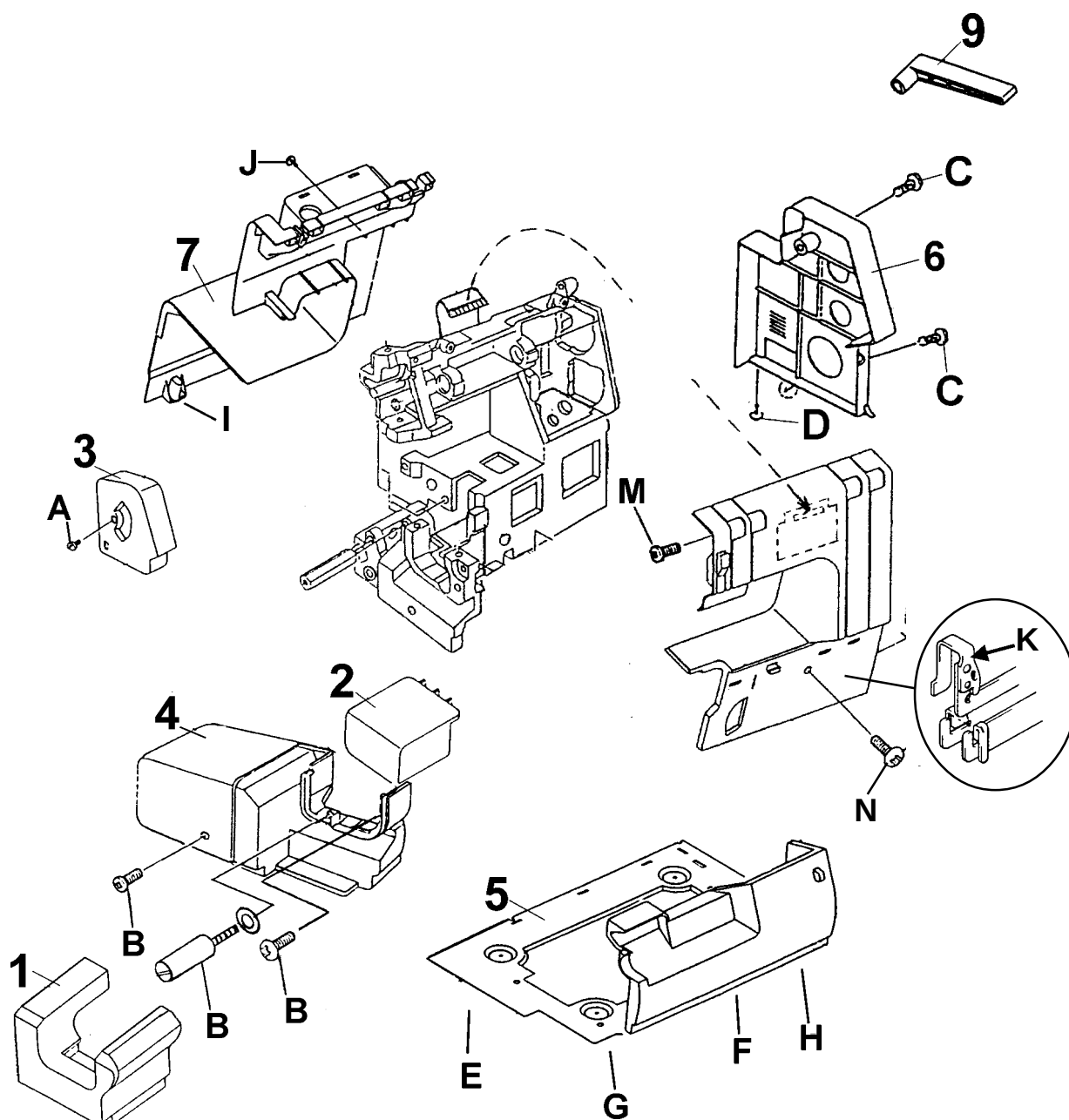
1. Pressure adjustment lever
2. Spool pin
3. Thread take-up lever cover
4. Thread guides
5. Telescopic thread stand
6. Thread tension dials
7. Presser foot lift lever
8. Thread cutter
9. Thread holders for decorative thread /cording thread
10. Upper cutter knob
11. Presser foot
12. Sewing surface, flat bed cover
13. Cutting width / stitch width adjusting dial
14. Cutter cover
15. Front panel
16. Front cover
17. Handwheel
18. Sewing advisor liquid crystal display (LCD)
19. Stitch finger
20. Upper cutter
21. Stitch finger lever
22. Stitch plate



GENERAL DISMOUNTING

To carry out all the recommended settings in this service manual the following parts should be dismantled first.

1. Remove support bed (1) and free arm (2).
 2. Dismount upper side cover (3) by removing the screw (A) .
 3. Dismount lower side cover (4) by removing the three screws (B) .
 4. Remove screws (D, E,F,G,H and I) then open front cover, and remove the base plate (5) towards left side.
 5. Remove presser foot lifter (9).
 6. Remove the two screws (C) and dismount the motor cover (6).
 7. Dismount the rear cover (7) by removing screw (J).
 8. Remove thread take up (K).
 9. Remove screws (M,N) and dismount the front cover.
- NOTE ! Set the needle in its lowest position.
10. Remove the cable from the circuit board on the front cover.
 11. Mounting in reverse order.



BASIC SETTING FOR CAMS

A,B = Chain stitch loopers calibration mark.

C = First cams first calibration mark.

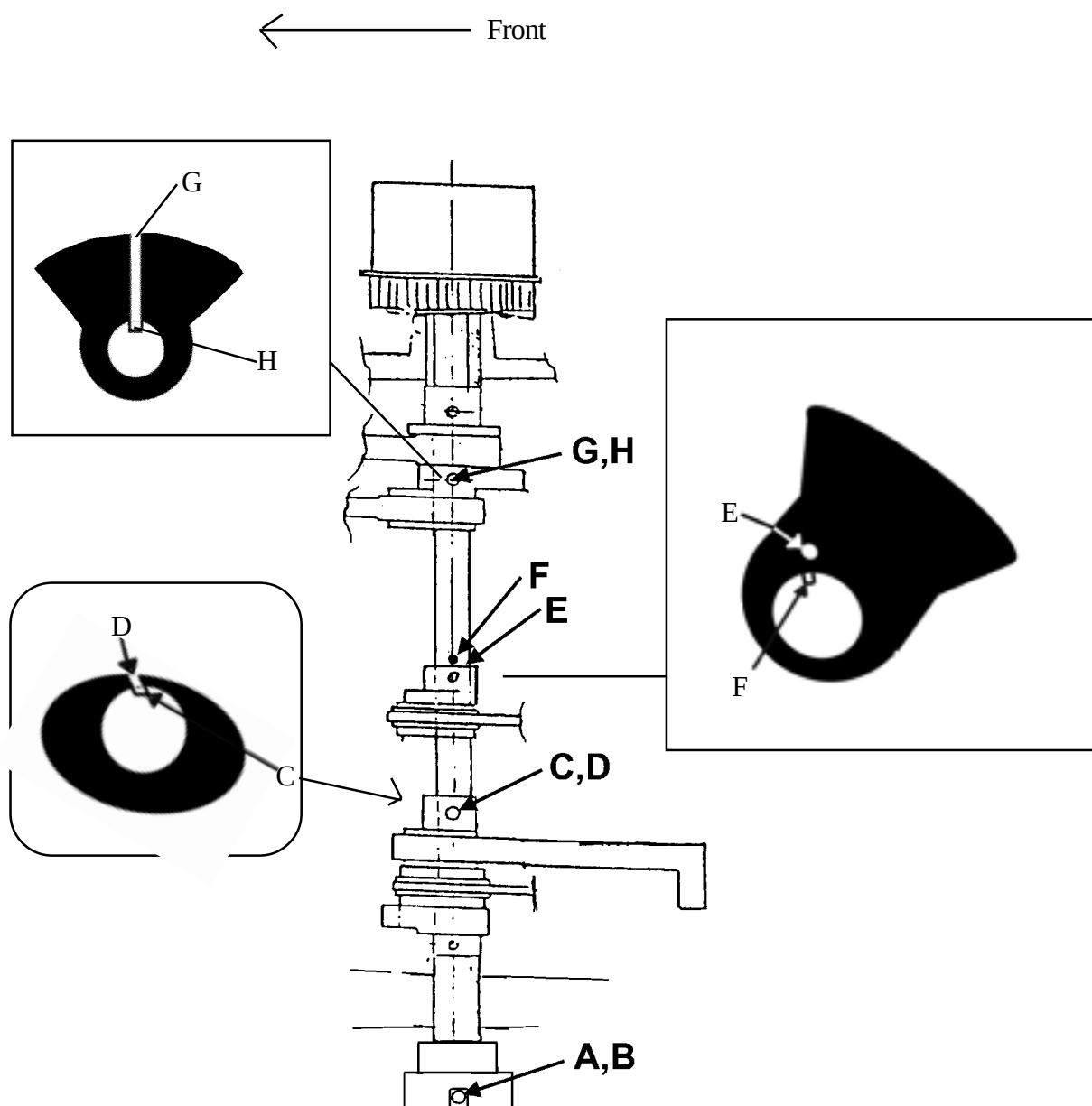
D = First cams second calibration mark.

E = Second cams first calibration mark.

F = Second cams second calibration mark.

G = Third cams first calibration mark.

H = Third cams second calibration mark.



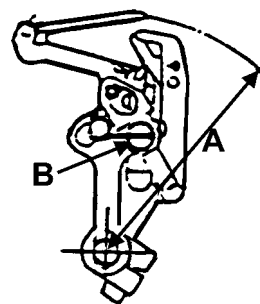
1. HEIGHT OF LOWER LOOPER

Check

The distance (A) should be $68,5 \pm 0,2\text{mm}$

Adjustment

Loosen screw (B) and adjust the height of the looper.



2. NEEDLE HEIGHT

CHECK

When the needle is in it's highest position the distance between the right needle (D) and the surface of the stitch plate shall be $10 \pm 0,1 \text{ mm}$

ADJUSTMENT

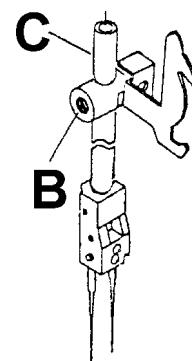
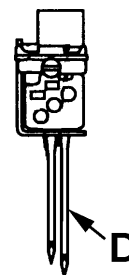
1. Move needle by turning the handwheel so it comes to it's highest position.

2. Loosen screw (B) holding the needle bar. Move needle bar until the distance between the right needle (D) and the surface of the stitch plate is $10 \pm 0,1 \text{ mm}$.

3. Tighten screw.

C = Needle bar

D = Right Needle -D



ATTENTION! If needle bar is twisted, clearance between lower looper and needles may differ.



3. CLEARANCE BETWEEN LOWER LOOPER AND NEEDLES

CHECK

When point of lower looper is behind the needle, the clearance between needle and lower looper should be 0 - 0.03 mm.

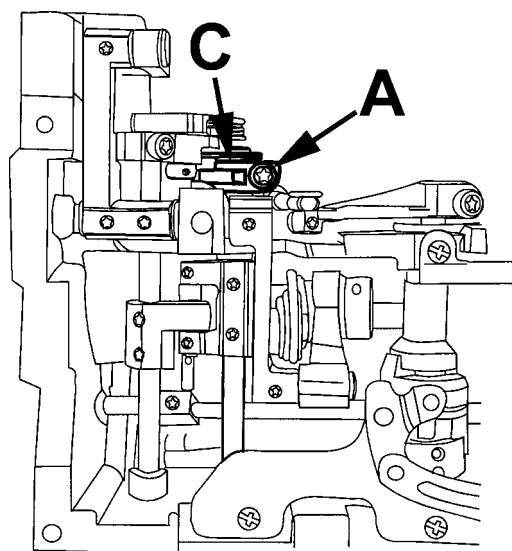
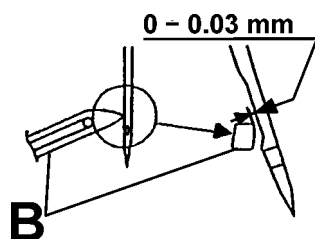
ADJUSTMENT

1. Then set point of lower looper behind centre line of the needle by turning the handwheel towards you.
2. Loosen screw (A) on the lower looper and adjust clearance between needle and point of looper by moving the lower looper until it is 0 - 0.03 mm.
3. Tighten screw.

B = Lower looper

C = Lower looper stand

ATTENTION! If needle bar is twisted, clearance between lower looper and needles may differ.



4. END POSITION OF LOWER LOOPER - SETTING OF THE LOWER LOOPER IN RELATION TO THE NEEDLE

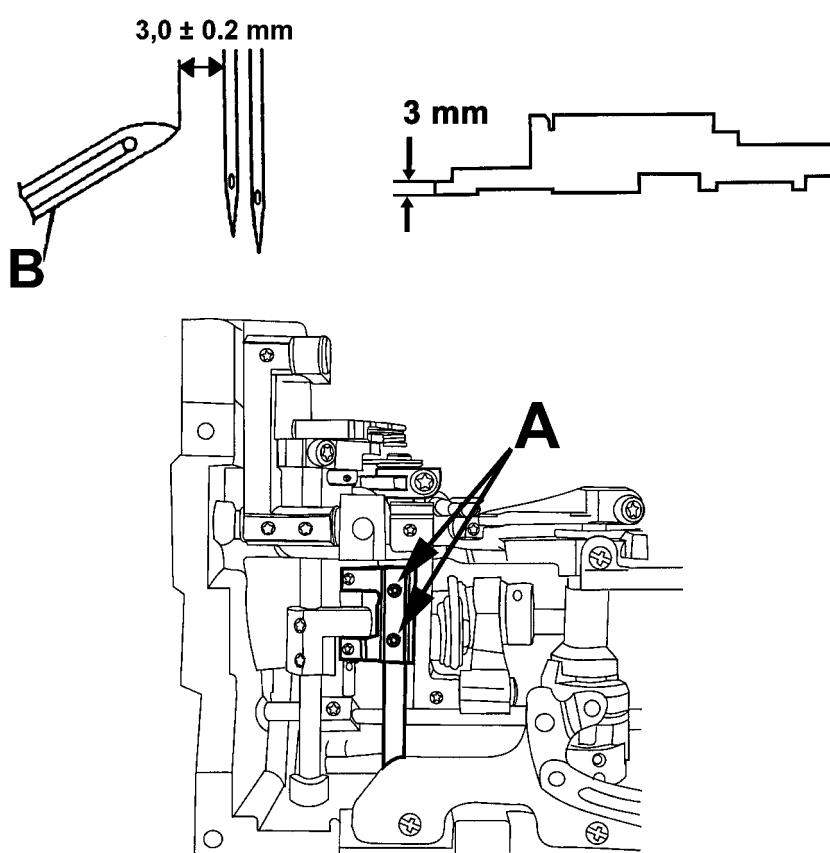
CHECK

When lower looper is positioned at its left end turning position, the clearance between its point and left side of left needle should be 3.0 ± 0.2 mm.

ADJUSTMENT

1. Move lower looper to its left end position by turning the handwheel towards you.
2. Loosen screws of the lever (A) of the lower looper. Adjust distance between left side of the needle and the point of the lower looper to 3.0 ± 0.2 mm.
3. Tighten screws.

B = Lower looper



5. POSITION OF UPPER LOOPER CLUTCH EXCHANGE BODY

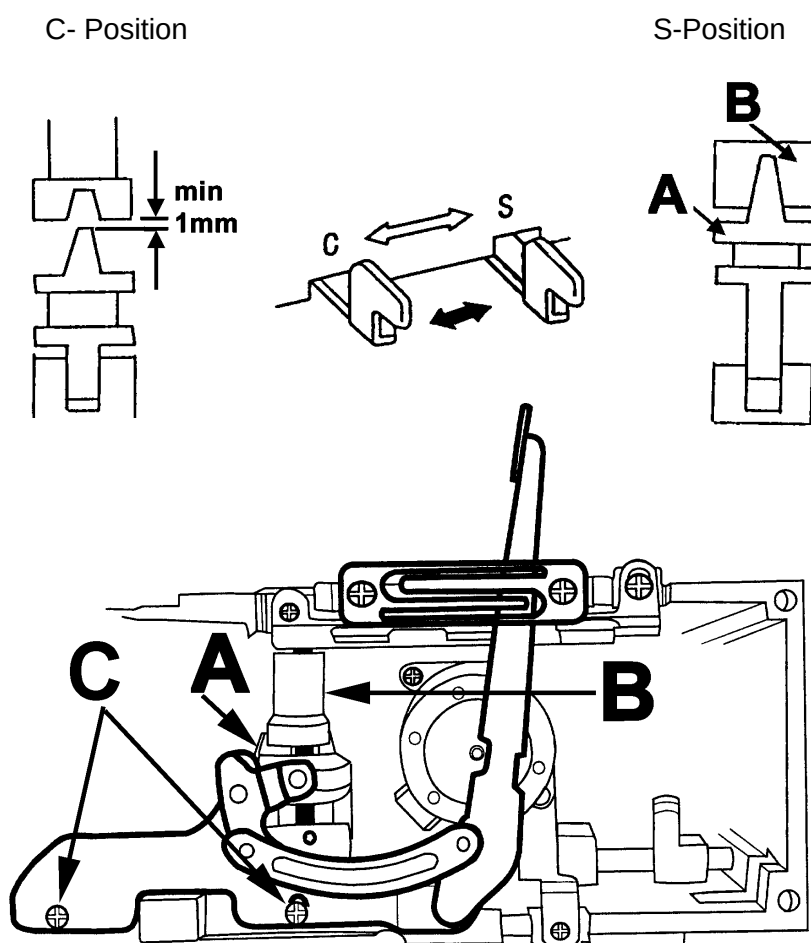
Check

When the looper clutch is at the S-Position (on) position there should not be any distance or play between exchange body (A) and looper link (B).

When the looper clutch is at the C-position (off) position the distance should be at least 1mm between the exchange body (A) and looper link (B).

Adjustment

1. Put the looper clutch in the S-position.
2. Loosen the 2 screw's (C) and move the clutch assembly until there is no play between exchange body (A) and looper link (B) and tighten the screws (C).



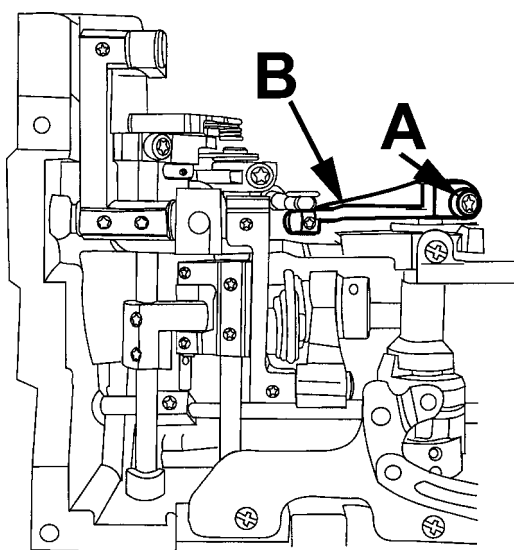
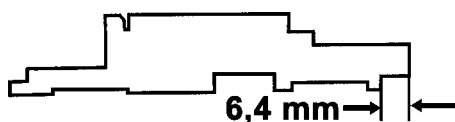
6.SETTING OF UPPER LOOPER IN RELATION TO THE NEEDLE

CHECK

When upper looper is set at its highest position the clearance between the point of the the upper looper and the left side of the (C) needle should be 6,4 mm.

ADJUSTMENT

- 1.Move upper looper to its highest position by turning the handwheel towards you.
- 2.Loosen screw (A) of the link arm of the upper looper lever (B) and adjust the looper so that the clearance between the point of the the upper looper and the left side of the (C) needle is 6,4 mm.
- 3.Tighten screw (A).



7. TIMING OF UPPER LOOPER AND LOWER LOOPER

CHECK

When point of upper looper (A) is aligned with back of upper end of lower looper, the clearance between the point of the upper looper and the hole of the lower looper should be 3,8 mm.

ADJUSTMENT

1.Align the point of the upper looper with back of upper end of the lower looper by turning the handwheel towards you.

2.Loosen cam the screws (B) on the driver cam (E) and adjust the position of the upper looper so that the clearance between the point of the upper looper and the surface of the lower looper is 3,8 mm.

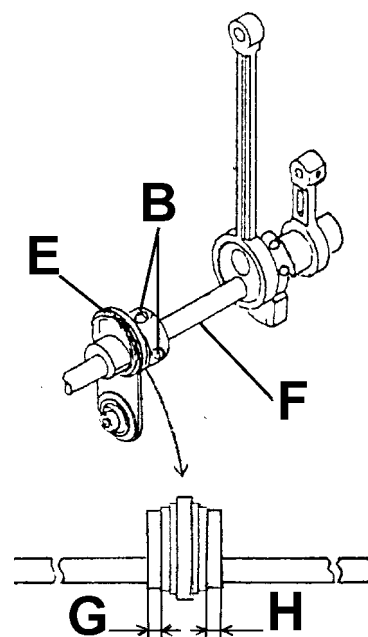
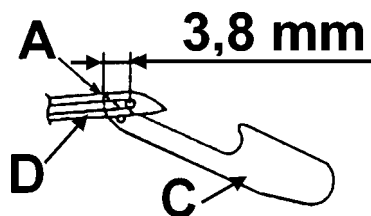
3.Tighten the screws (B).

N.B. That (G) is equal to the distance (H).

C= Upper looper

D= Lower looper

F= Lower shaft



8. CLEARANCE BETWEEN UPPER LOOPER AND LOWER LOOPER

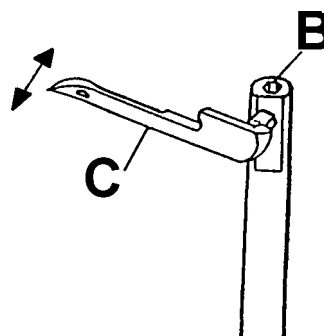
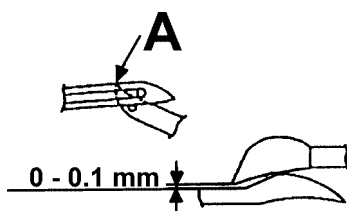
CHECK

The clearance between upper looper and lower looper should be 0 - 0.10 mm. See ill.

ADJUSTMENT

1. Align point of upper looper (A) with back of upper end of lower looper by turning the hand wheel towards you.
2. Loosen fixing screw (B) of the upper looper and adjust the clearance between upper looper and lower looper. (0 - 0.10 mm).
3. Tighten screw (B).

C = Upper looper



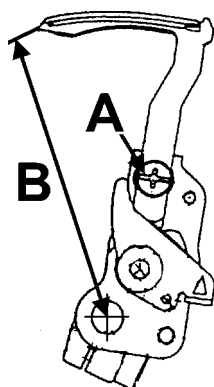
9. HEIGHT OF CHAIN STITCH LOOPER

Check

The distance B should be $64,5 \pm 0,4\text{mm}$

Adjustment

Loosen screw (A) and adjust the height of the looper.



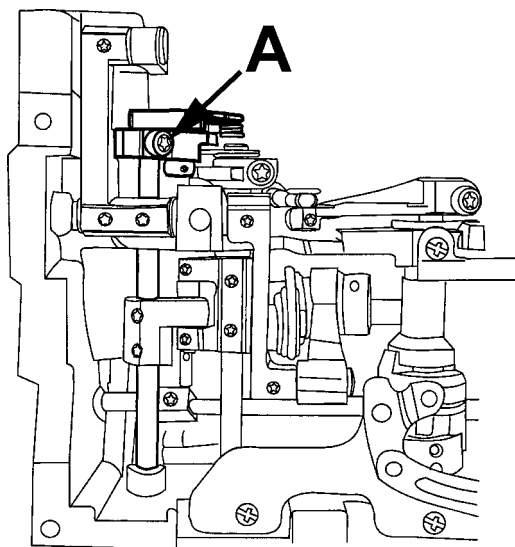
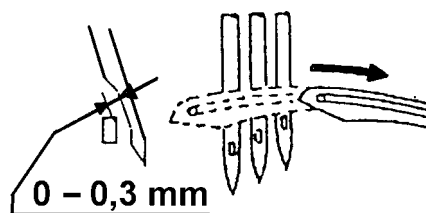
10. CLEARANCE BETWEEN DOUBLE CHAIN LOOPER AND NEEDLE

Check

When point of the double chain looper is behind the needle, the clearance between needle and double chain looper should be 0 - 0.3 mm.

Adjustment

1. Set point of the double chain looper behind the centre line of the needle by turning the handwheel towards you.
2. Loosen screw (A) on the double chain looper and adjust clearance between needle and point of looper by moving the double chain looper until it is 0 - 0.3 mm.
3. Tighten the screw (A).



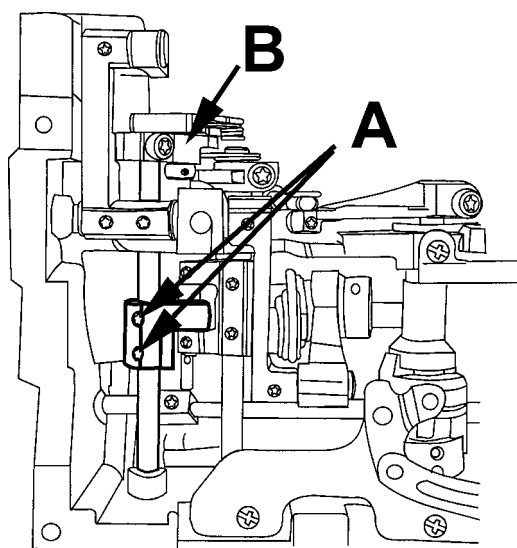
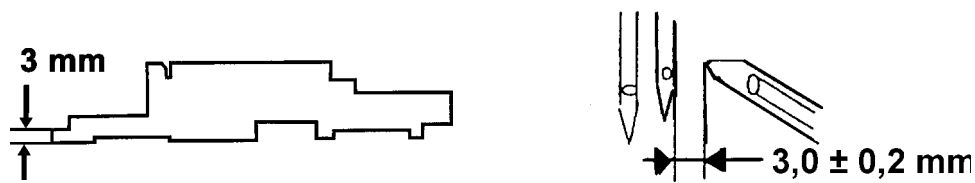
11. TIMING OF DOUBLE CHAIN LOOPER AGAINST THE NEEDLE

Check

When double chain looper is positioned at end of right side, the clearance between the needles right side to the tip of the double chain looper should be $3,0 \pm 0,2$ mm.

ADJUSTMENT

1. Move the double chain looper to its right end position by turning the handwheel towards you.
2. Loosen screws (A) on the lever of the double chain looper. Adjust distance between right side of the needle and the tip of the double chain looper to $3,0 \pm 0,2$ mm.
3. Tighten screws (A).



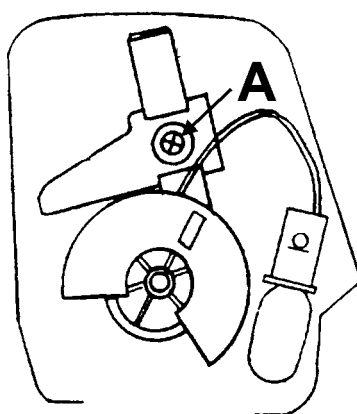
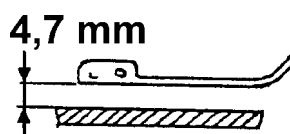
12. PRESSERFOOT HEIGHT

Check

When the presser foot is in it's highest position the distance between the stitch plate and the presser foot should be 4,7 mm.

Adjustment

1. Loosen the screw (A).
2. The presser bar height can now be adjusted up or down until the distance is 4,7 mm between the presser foot and the stitch plate.
3. Tighten the screw (A).



13. CLEARANCE BETWEEN FEED DOG AND STITCH PLATE - SIDEWAYS

CHECK

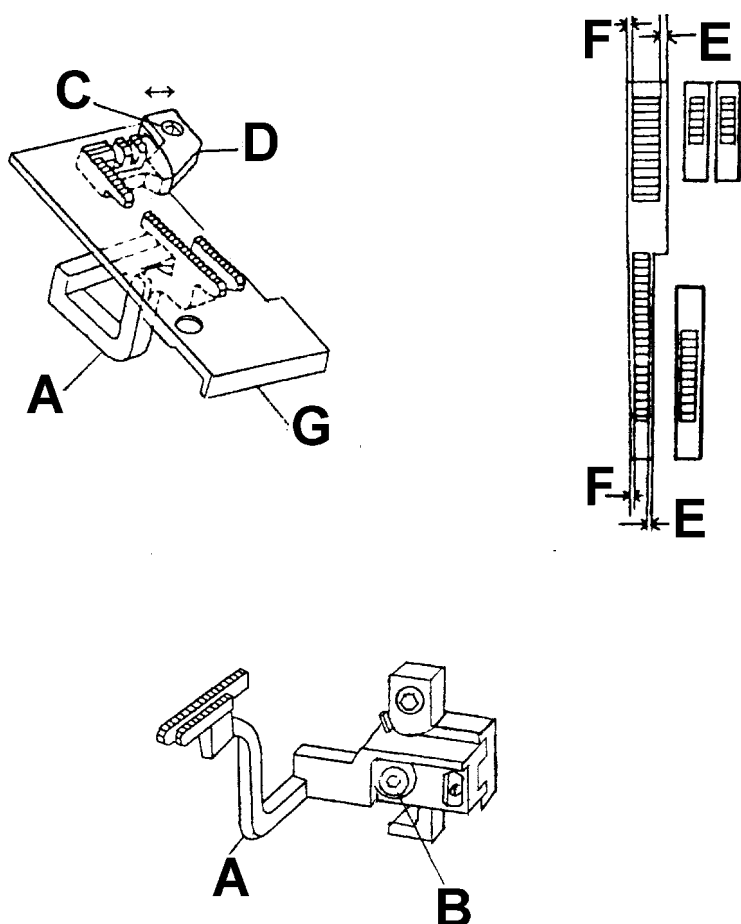
The feed dogs shall not at any point touch the stitch plate.

ADJUSTMENT- Rear feed dog

1. Loosen screw (C).
2. Adjust the distance between the feed dog and the stitch plate so that (E) is be equal to the distance (F).

ADJUSTMENT- Differential feed dog

1. Loosen screw (B).
2. Adjust the distance between the feed dog and the stitch plate so that (E) is be equal to the distance (F).



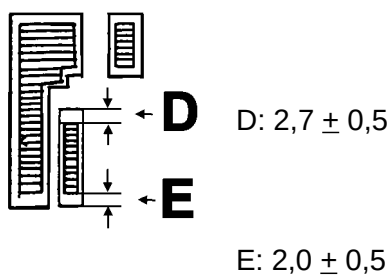
14. POSITION OF FEED DOG FRONT TO BACK

Check

When checking the position of the feed dog, connect the cable from circuit board to the front cover and set the machine to:

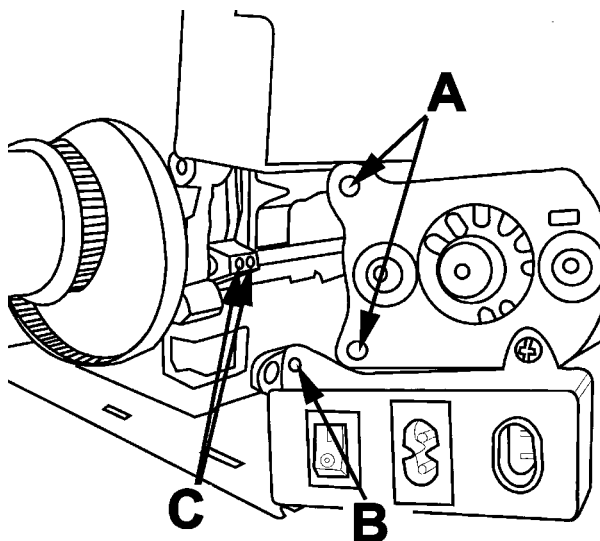
stitch length = 5mm
differential ratio = 2,0

The distances should be as follows:



Adjustment

1. Demount the Motor and the Terminal box by removing the two screws (A) on the motor and the screw (B) on Terminal box and then fold the Motor and Terminal box away.
2. Loosen the 2 screws (C) and adjust the distance between the feed dog and stitch plate so distance D and E is correct.
3. Tighten the screws (C).
4. Mount the Motor and the Terminal Box.



15. FEED DOG HEIGHT

- Rear feed dog

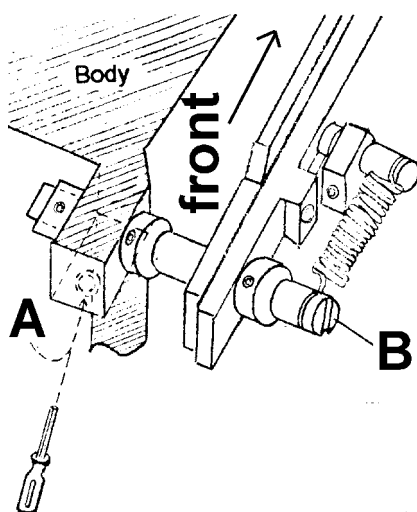
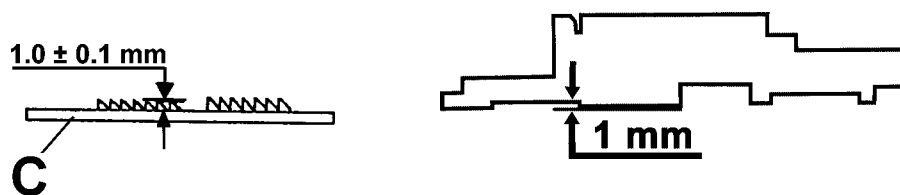
CHECK - Rear feed dog

Height of rear feed dog above the stitch plate should be 1 ± 0.1 mm.

ADJUSTMENT - Rear feed dog

1. Move feed dog to its highest position by turning the handwheel towards you.
2. Loosen screw (A) and turn screw (B) so that the rear feed dog is 1 ± 0.1 mm above the stitch plate.
3. Tighten screw (A).

C = Stitch plate



15. FEED DOG HEIGHT

- Front feed dog

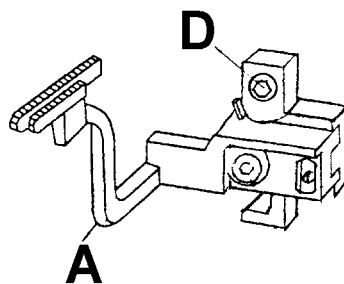
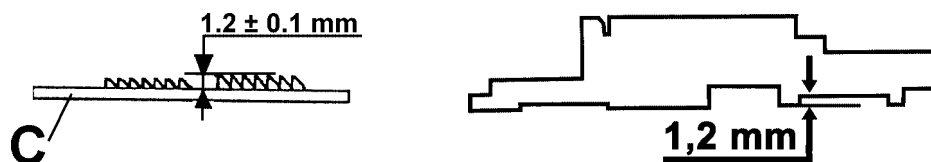
CHECK - Front feed dog

Height of front feed dog above the stitch plate should be $1,2 \pm 0,1$ mm.

ADJUSTMENT - Front feed dog

1. Move feed dog to its highest position by turning the handwheel towards you.
2. Loosen screw (D) and adjust so that the front feed dog (A) is $1,2 \pm 0,1$ mm above the stitch plate (C).
3. Tighten screw (D).

C = Stitch plate



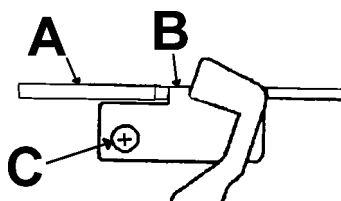
16. POSITIONS OF LOWER KNIFES

CHECK - LOWER KNIFE

1. The lower knife cutting edge (B) should be aligned with the surface of the stitch plate (A).

ADJUSTMENT

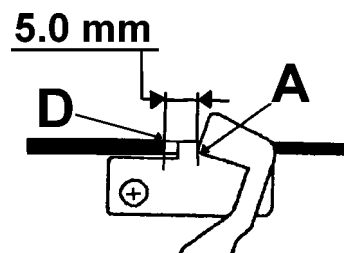
Loosen screw (C). Adjust so the lower knife cutting edge is aligned with the surface of the stitch plate.



17. POSITIONS OF UPPER KNIFES

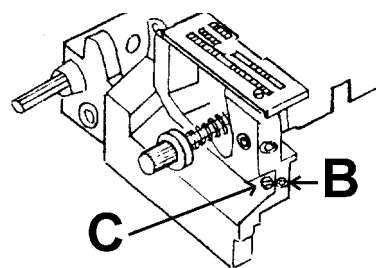
CHECK - 1. UPPER KNIFE

When upper knife is in its lowest position, its cutting edge (A) should be positioned 5.0 mm from the stitch plates knife opening (D).



ADJUSTMENT

1. By turning handwheel towards you, move upper knife to its lowest position.
2. Loosen lower knife fixing screw (B). Adjust by turning the eccentric screw (C) until the distance between the stitch plates knife opening (D) and the cutting edge of the upper knife (A) is 5.0 mm
3. Tighten screw (B).



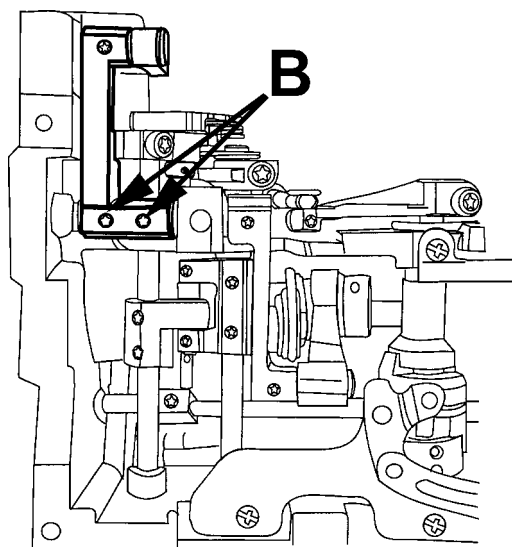
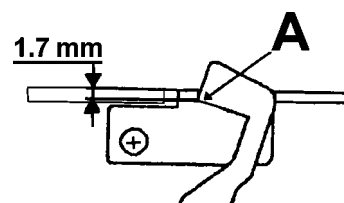
CHECK - 2. UPPER KNIFE

When upper knife is in its lowest position, its cutting edge (A) should be positioned 1.7 mm lower than the cutting edge of the lower knife.



ADJUSTMENT

1. By turning handwheel towards you, move upper knife to its lowest position.
2. Loosen upper knife fixing screws (B).
3. Adjust position of upper knife downwards 1.7 mm from the cutting edge of the lower knife.
4. Tighten the screws (B).



18. CLEARANCE BETWEEN NEEDLES SUPPORT AND NEEDLE - NEEDLES (A),(B) AND (E)

CHECK

When needle is in its lower turning position the needle shall not at any point touch the rear needle support (F) .

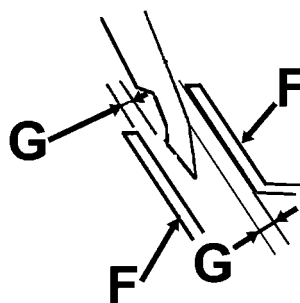
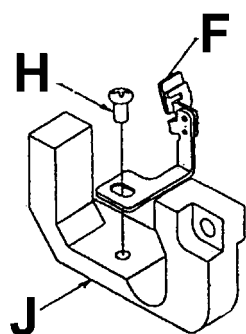
Valid for Schmetz #90.

ADJUSTMENT

1. Loosen screw (H) of the needle support
2. Adjust the needle support until the clearance to the needle is $G = 0,05-0,1 \text{ mm}$
3. Tighten screw (H).

F = Needle support

J = Frame



19. CLEARANCE BETWEEN NEEDLES SUPPORT AND NEEDLE - NEEDLES (C) AND (D)

CHECK

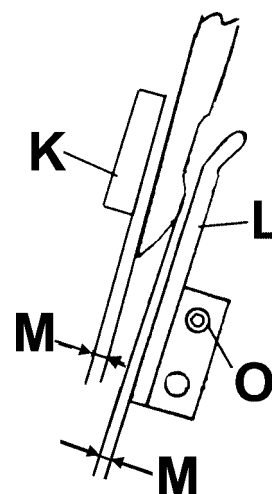
When needle is in its lower turning position, the right hand needle should not touch the needle support (K,L) at any point.
Valid for Schmetz #80.

ADJUSTMENT

1. Loosen screws (O) of the needle support and turn it until its clearance (M) to the needle is between 0-0.10 mm.
2. Tighten screw (O).

K= Front needle support.

L= Rear needle support.



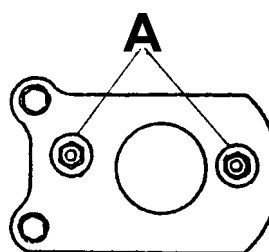
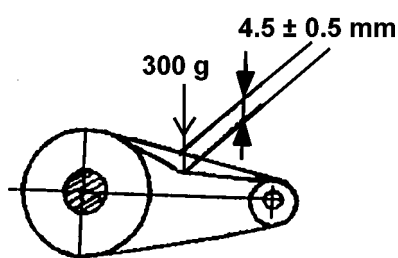
20. BELT TENSION

CHECK

It should be possible to push down the belt 4 ± 0.5 mm when applying a pressure of 300 g .

ADJUSTMENT

1. Loosen both screws (A) holding the motor.
2. Adjust belt tension by moving the motor back or forth
3. Tighten the screws.



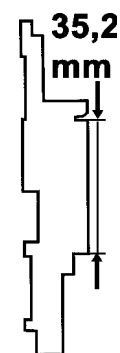
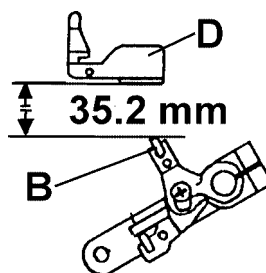
21. SETTING BETWEEN THREAD TAKE-UP AND UPPER / LOWER THREAD GUIDE

Front cover must be mounted

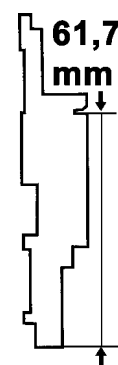
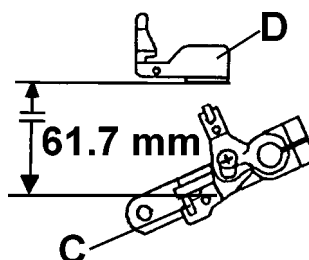
CHECK

When the upper looper is in its lowest position the distance between the upper looper thread guide (D) and...

the upper looper thread take-up (B) should be

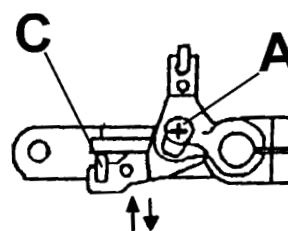
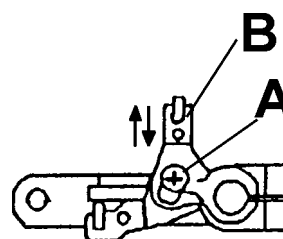


the lower looper thread take-up (C) should be



ADJUSTMENT

1. Move the upper looper to its lowest position by turning the handwheel towards you.
2. Loosen the screw (A).
3. Adjust the distance between the thread guide (D) and the upper looper thread take-up (B) so it's 35.2 mm.
4. Adjust the distance between the thread guide (D) and the lower looper thread take-up (C) so it's 61.7 mm.
5. Tighten the screw (A).



NOTE ! Both upper and lower thread take-up is adjusted at the same time.

22. CHAIN STITCH LOOPER TAKE UP LEVER

Base plate must be mounted

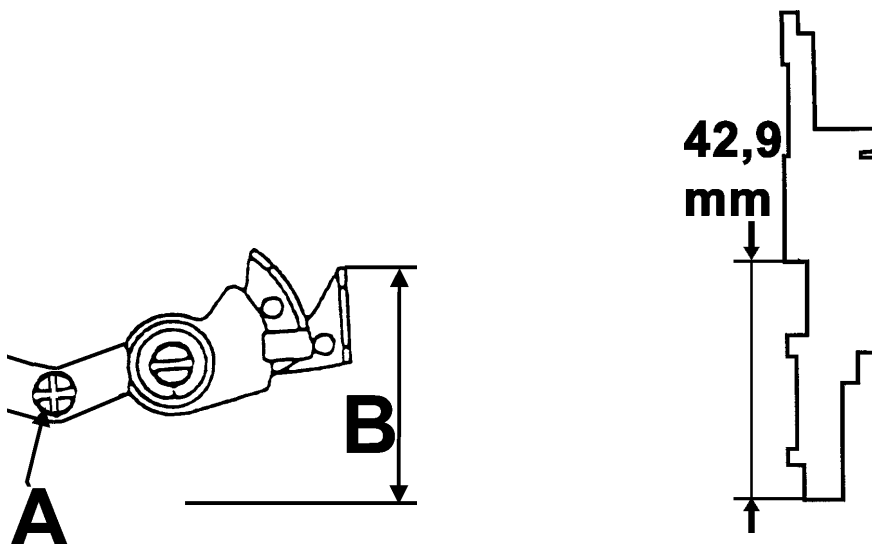
CHECK

When the chain stitch looper is in it's upper turning point the distance between Chain stitch looper take up lever and base plate should be $42,9 \pm 0,3$ mm.

ADJUSTMENT

Loosen screw (A) and adjust the height of the take up lever.

B= $42,9 \pm 0,3$ mm



23. STITCH LENGTH

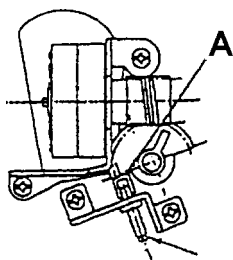
Front cover must be mounted

CHECK

1. In order to get the starting point of step motor switch the machine off then on.
2. Set stitch length to 5,0 mm and differential feed ratio to 1,0.
3. Run the machine and then switch it off.
4. Check if the movement of of feed dog represents $5,0 \pm 0,2\text{mm}$.

ADJUSTMENT

1. Remove base plate.
2. In order to get the starting point of step motor switch the machine off then on.
3. Set stitch length to 5,0 mm and differential feed ratio to 1,0.
4. Turn the adjusting screw (A).
5. Re-check.



24. DIFFERENTIAL FEEDING

Front cover must be mounted

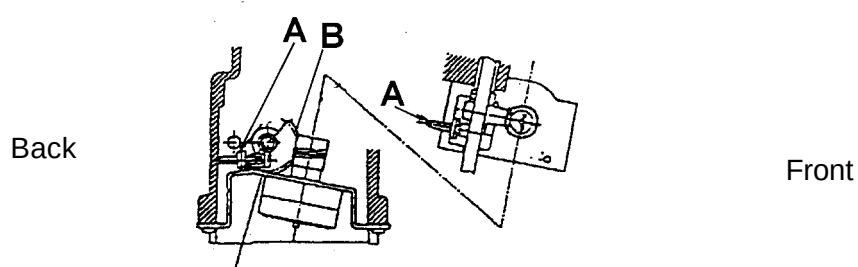
CHECK

1. In order to get the starting point of step motor switch the machine off then on.
2. Set stitch length to 5,0 mm and differential feed ratio to 1,0.
- 3 Run the machine and then switch it off.
- 4 Check if the movement of of feed dog and differential feed dog have the same amount of feeding (0 ± 0.2 mm).

ADJUSTMENT

1. Remove base plate.
2. In order to get the starting point of step motor switch the machine off then on.
- 3 Set stitch length to 5,0 mm and differential feed ratio to 1,0.
4. Turn the adjusting screw (A).
- 5 Re-check

B= Worm wheel



25. THREAD TENSION

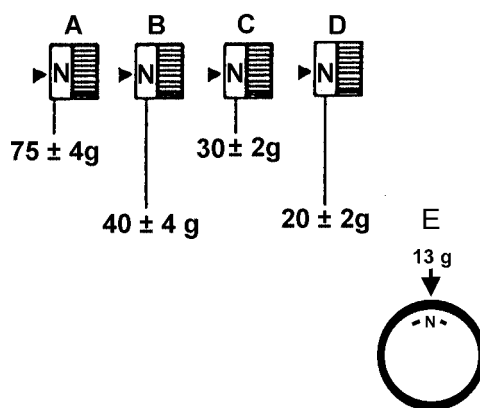
CHECK

Check thread tension according to manual.

Thread : Cotton # 60/3

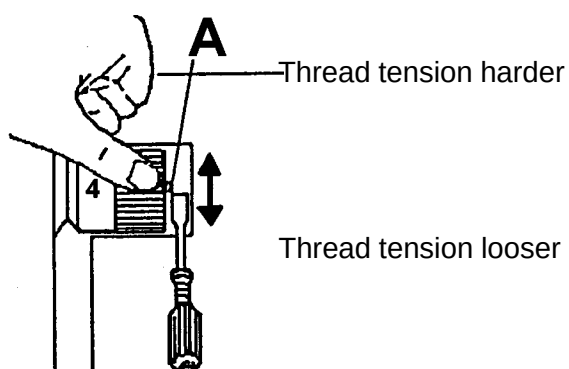
Power of thread tension

A	$75 \pm 4g$
B	$40 \pm 4g$
C	$30 \pm 2g$
D	$20 \pm 2g$
E	$13 \pm 3g$

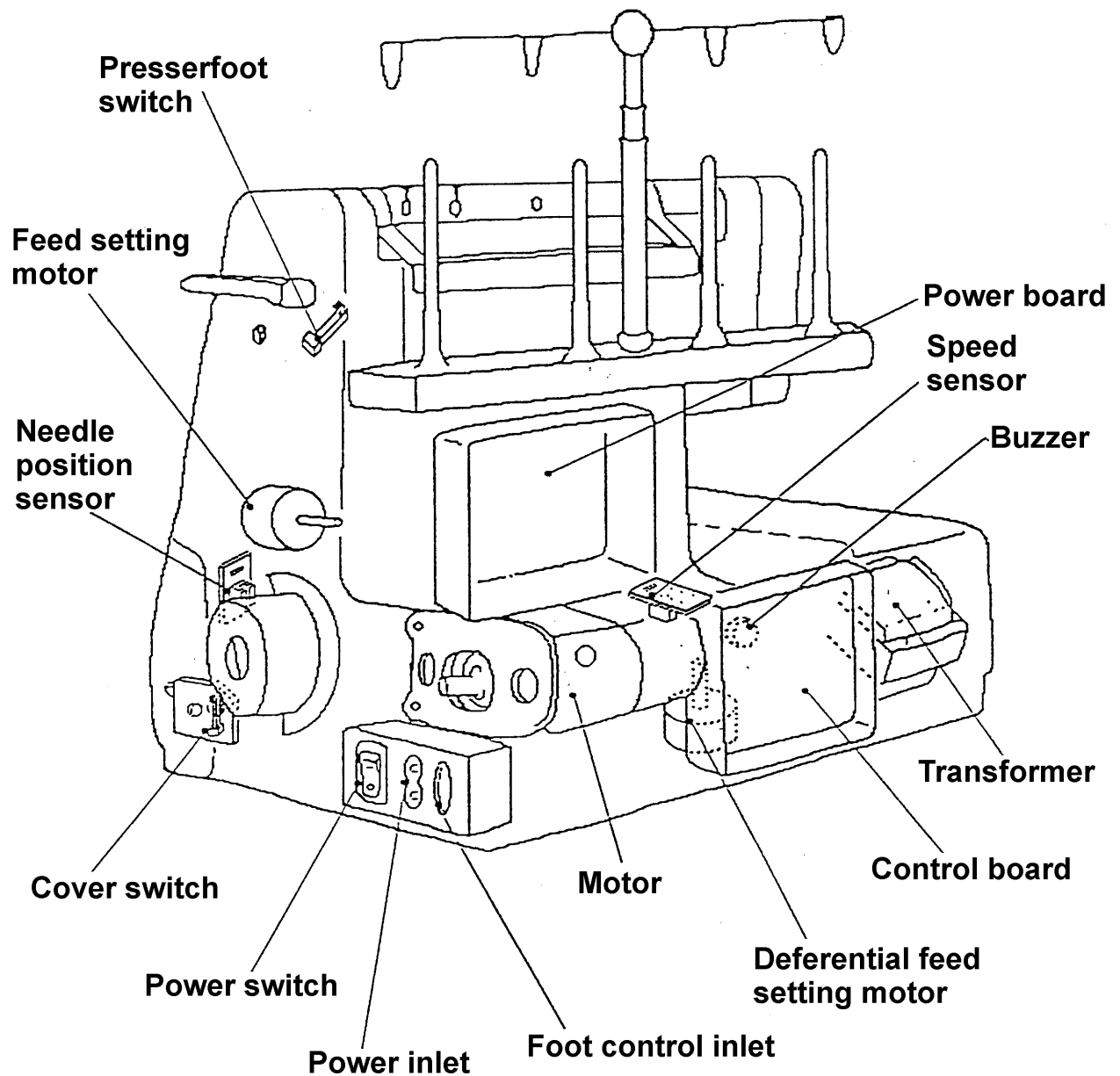


ADJUSTMENT

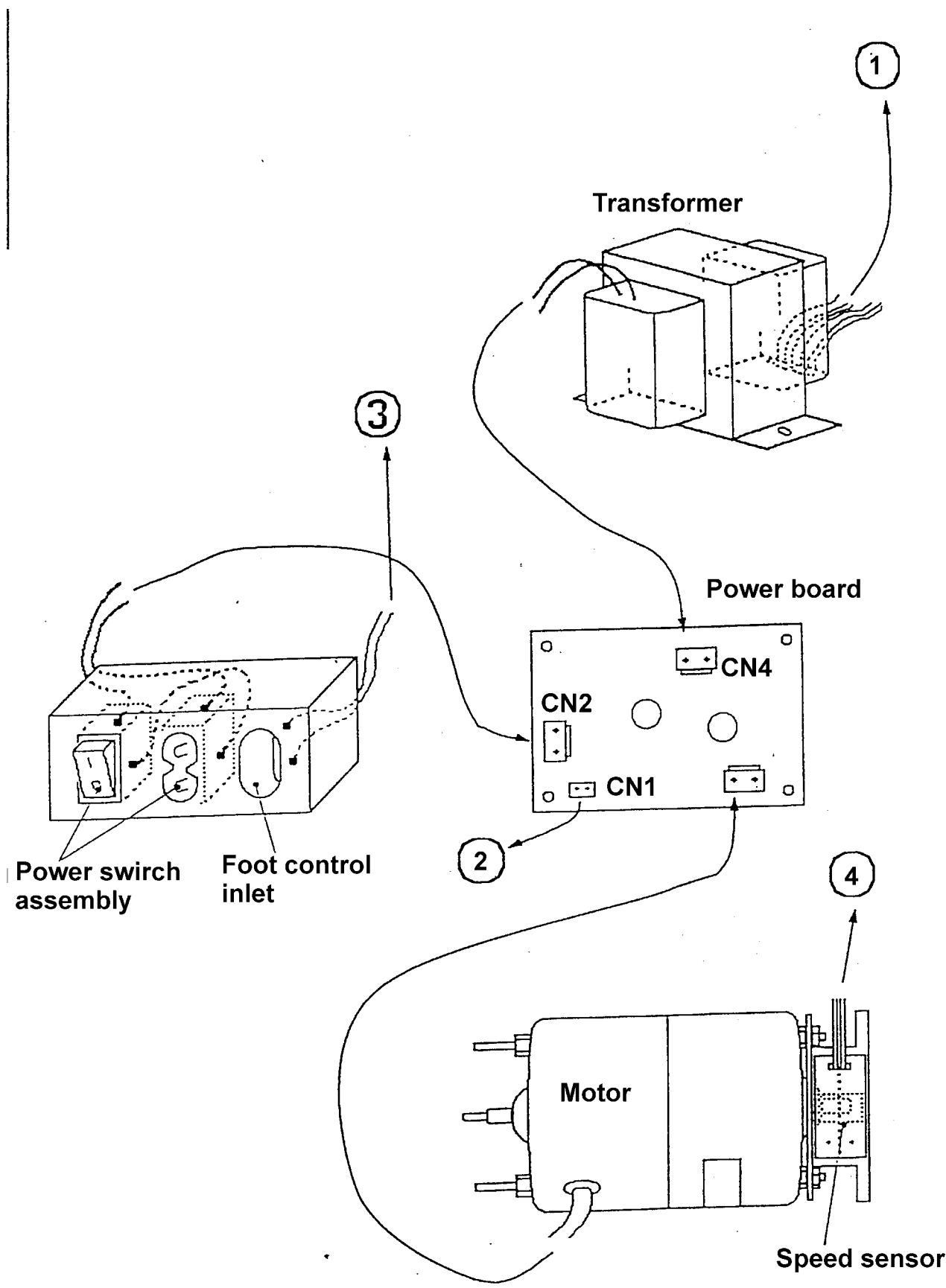
1. Set thread tension dial at normal position "N".
2. The basic setting may be adjusted by blocking the plate sheet at the edge of the tread tension dial by means of a small screw driver while moving the thread tension dial.



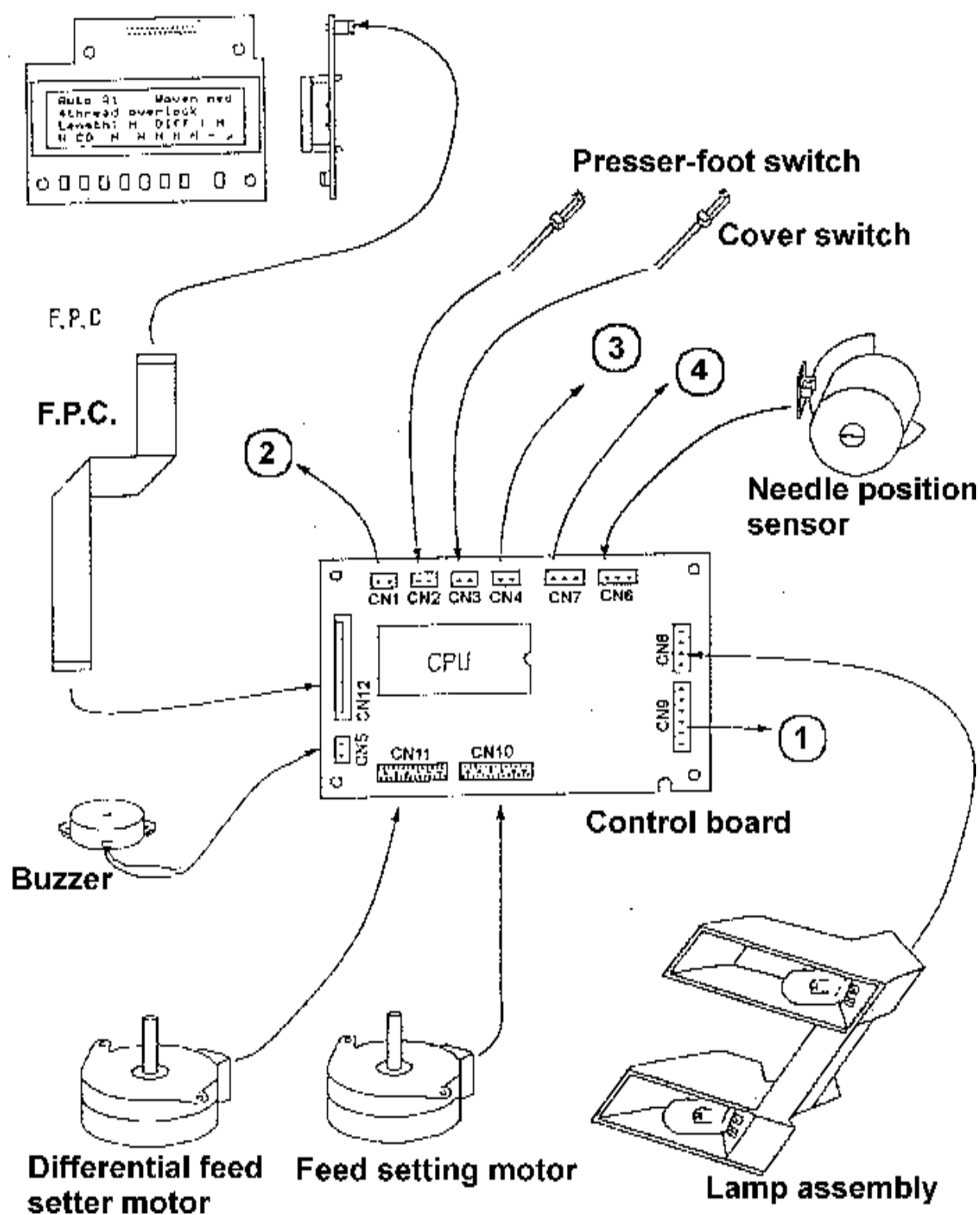
Wiring diagram



Wiring diagram



Wiring diagram



Fault finding diagram- mechanically

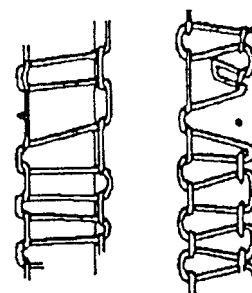
1. Skipped stitches - Lower looper can't catch the needle thread

Make sure that...

- the needle is a SCHMETZ 130/705 H.
- the needle is set correctly.
- the needle is not bent.

Check or adjust the following settings

- A. 2. Clearance between lower looper and needles
- B. 11. Clearance between needle supports and needle.
- C. 3. Setting of the lower looper in relation to the needle.
- D. 4. Needle height - setting between needle and lower looper.
- E. The point of the lower looper has been broken - change looper



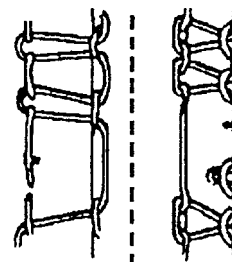
2. Skipped stitches - the needle can't catch upper looper thread

Make sure that...

- the needle is set correctly.
- the needle is not bent.

Check or adjust the following settings

- A. 5. Setting between upper looper in relation to the needle.
- B. 4. Needle height - setting between needle and lower looper.
- C. 6. Timing of upper looper and lower looper.
- D. 7. Clearance between upper looper and lower looper.



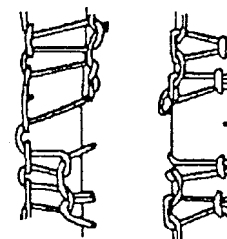
3. Skipped stitches - Lower looper can't catch upper looper thread

Make sure that...

- the threading is correctly

Check or adjust the following settings

- A. 6. Timing of upper looper and lower looper
- B. 7. Clearance between upper looper and lower looper.
- C. The point of the lower looper has been broken - change looper



4. Skipped stitches- The double chain looper can not catch lower looper thread

Make sure that...

the thread tension of thread guide is set correctly.
the size of needle is correctly.
the LCD selection is set correctly

Check or adjust the following settings

- A. Clearance between double chain looper and needle
- B. Distance from double chain looper needle
- C. Clearance between needle guide and needle



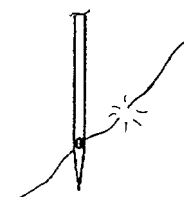
5. Needle thread breaks

Make sure that...

the thread is an overlocker thread
the threading is correctly
the thread tension is correctly
the thread guide isn't damaged - change thread guide
the lower looper isn't damaged - change lower looper

Check or adjust the following settings

- A. 2. Clearance between lower looper and needles
- B. 3. Setting of the lower looper in relation to the needle
- C. 4. Needle height
- D. 11. Clearance between needle supports and needle.



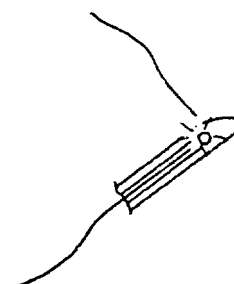
6. Looper thread breaks

Make sure that...

the threading is correctly
the thread tension is correctly
the thread guide isn't damaged - change thread guide

Check or adjust the following settings

- A. 13. Setting between thread take up and upper looper thread guide
- B. 13. Setting between thread take up and lower looper thread guide
- C. 6. Timing of upper looper and lower looper.
- D. 7. Clearance between upper looper and lower looper.



7. Needle breaks

Make sure that...

- the thread is an overlocker thread.
- the needle is set correctly.
- the thread is inside of the thread guide.
- the needle is not bent.

Check or adjust the following settings

- A. 2. Clearance between lower looper and needles.
- B. 11. Clearance between needle support and needle.
- C. 4. Needle height
- D. 6. Timing of upper looper and lower looper.
- E. 7. Clearance between upper looper and lower looper



8. Thread breaks on double chain sewing

Make sure that...

- the thread is an overlocker thread
- the threading is correctly

Check or adjust the following settings

- A. Feed dog height .
- B. Presserfoot height
- C. Sideways setting of presserfoot
- D.
- E. Thread tension

9. Feeding is not correctly

Make sure that...

- the stitch length is set correctly.
- the pressure foot pressure is set correctly
- the differential feeding is set correctly

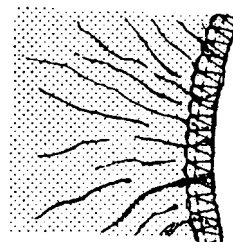
Check or adjust the following settings

- A. 9. Feed dog height
- B. Stitch plate isn't damaged.
- C. Presser foot isn't damaged.
- D. 10. Position of upper / lower knife

10. Fabric is shrinking

Make sure that...

the differential feeding is set correctly
the thread tension is set correctly.
the threading is correctly.



Check or adjust the following settings

- A. 16. Thread tension
- B. 15. Differential feeding
- C. 13. Setting between thread take up and lower looper.
- D. 13. Setting between thread take up and upper looper.

11. Thread tension

Make sure that...

the thread tension is set correctly.

Check or adjust the following settings

- A. 16. Thread tension
- B. 13. Setting between thread take up and upper looper thread guide
- C. 13. Setting between thread take up and lower looper thread guide

12. Motor is not running

Make sure that...

the front cover closes correctly.
the power cord is correctly connected.

Check or adjust the following settings

- A. 12. Belt tension - motor belt.

13. Cutting of the knives

Make sure that...

the upper knife is set correctly.
the upper knife is set tightly.

Check or adjust the following settings

- A. 10. Position of upper / lower knife
- B. The upper knife isn't damaged - change knife
- C. The lower knife isn't damaged - change knife

Fault finding diagram - Electronically

MAIN MOTOR

- (1) Machine runs with high revolution, after it's switched on.**

Remove connector (CN1) then switch on:

- If normal, change control board.
- If abnormal, change power board.

- (2) Machine runs after you connected the foot controller.**

- Change foot controller.

- (3) Machine runs with high revolution after steps on foot controller, then indicates "overload" in seconds, and the machine stops.**

- Change speed sensor board.

- (4) After steps on foot controller machine runs, but indicates "overload" in seconds and the machine stops.**

- Change upper stop sensor board.

- (5) After steps on foot controller, machine does not run but indicates "overload"**

Change power board:

- If abnormal, change control board
- If still abnormal, change motor.

- (6) After steps on foot controller, machine does neither run nor does it indicate "overload".**

- Change foot controller.
- If still abnormal, change control board.

- (7) After steps on foot controller, machine runs, but with unstable revolution or sometimes stops.**

Remove speed sensor board, check if disc is broken or not:

- If abnormal, change disc.
- If normal, change speed sensor.
- If still abnormal, change control board.

LCD

(1)Not indicating normally.

- Change LCD.
- Control board.
- Change flexible.

(2)Indicating vague.

- Regulate the volume on control board.
- Change LCD.

(3)Back-light not working. (Can indicate lettering.)

- Change LCD.
- Change control board.

SAFETY SWITCH

(1)Machine runs with the cover opened.

- Change cover switch assembly.

(2)Machine does not run with closed cover, and indicates "Close front cover"

- Regulate the position of the switch.
- If defective cover switch, change cover switch

BUZZER

Buzzer does not sound.

- Change control board.

FEED & DIFFERENTIAL

Feeding is abnormal.

- Change control board.
- Change transformer.
- Change step motor.

LIGHTING

Bulb not working

- If bulb defective, change bulb.
- If loose contact of lamp terminal, tighten the bulb.
- Measure the voltage to (CN8) on control board, change control board if abnormal voltage.
- Change transformer.

OTHERS

Machine does not run, LCD back light & lamp does not work.

- Change power supply cord.
- Measure the voltage of CN2, if abnormal change power switch assembly
- Measure the voltage on CN4, if abnormal change power board
- Change transformer.
- Change control board.

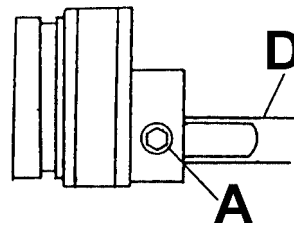
? .TIMING OF LOWER LOOPER AND NEEDLE

CHECK

When lower looper is aligned with left side face of left hand needle, the needle should have travelled 2.9 mm upwards from its lowest position.

ADJUSTMENT

1. Move needle to its lowest position.
2. Put setting gauge on needle bar with distance washer between tool and body.
3. Remove distance washer and move needle upwards by means of handwheel until setting tool touches body.
4. Loosen screw (a) in cam of lower looper. Align point of lower looper with left side face of left hand needle.
5. Tighten screw.



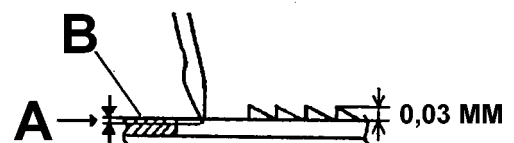
? .FEED TIMING

CHECK

When the needle is moving upwards and the needle point is aligned with the underside of the needle plate (max. 2 mm under), the feed dog should be aligned with surface of the needle plate.

ADJUSTMENT

1. Turn handwheel towards you so that the needle point is aligned with the underside of the needle plate.
2. Loosen feed dog cam screw (a) and adjust feed dog so that it is aligned with surface of the needle plate.
3. Tighten screw.

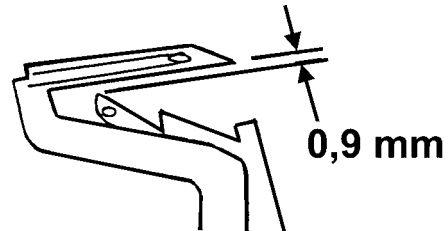
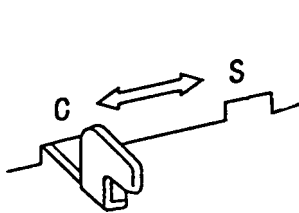


? . CLEARANCE BETWEEN FRONT NEEDLE SUPPORT AND NEEDLE

7. POSITION OF UPPER LOOPER

Check

When the looper clutch is at the C-position (off) and the lower looper is in its right hand side's dead point the distance A should be $0,9 \pm 0,1$



Adjustment

Loosen the screws (A) and (B), and adjust the position of the upper looper.

