PFAFF

Service Manual

hobbylock

Classes 785, 787, 788 and 799

Supplement to the existing service manuals 783, 784, 786
Publication No. 38021

Supplement to the existing service manuals 797
Publication No. 38014

PFAFF · GRITZNERSTRASSE 11 · D-7500 KARLSRUHE 41

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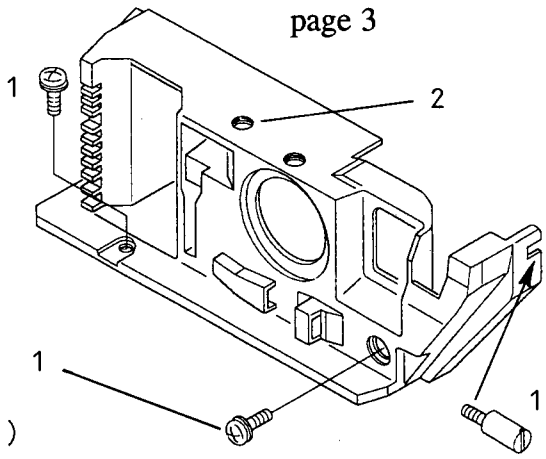
785, 787 and 788

799

Classes 785, 787, 788

1. Removing the safety cover

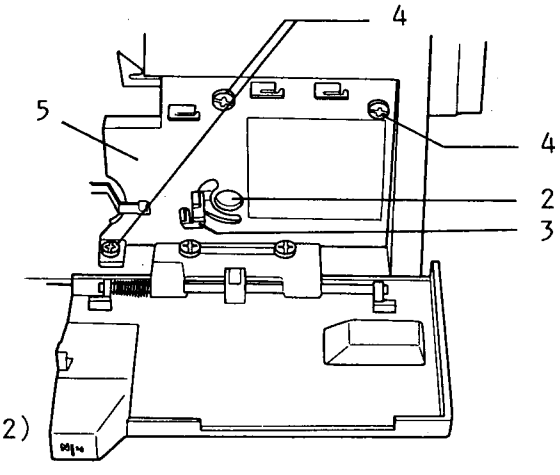
Open work support. Remove three screws 1 and take off safety cover 2 (fig. 1).



(Fig. 1)

2. Removing the front cover

Remove screw 2 of looper thread guide 3 and take off thread guide. Remove screws 4 and take off cover 5 (fig. 2).



(Fig. 2)

3. Removing the baseplate

Before the machine housing can be removed, the internal lead must be disconnected.

4. Adjusting the right overedge looper

The adjustments of the right overedge looper are identical to the adjustments of the hobbylock 783 - 786.
These adjustments have to be executed with absolute precision to ensure a proper functioning of the converter.

5. Mounting the converter

For instructions about mounting the converter refer to the hobbylock 787/788 instruction book, page 46.

6. Converter ON/OFF

To switch the converter ON or OFF, refer to the instruction book, page 24.

7. Adjusting the looper thread guide

Turn handwheel in normal turning direction of the machine until needle bar is at top of stroke. Loosen screw 6 of looper thread guide 7 (fig. 3). Adjust looper thread guide according to fig. 3. When adjustment is correct, fully tighten screw 6.
Loosen screw 8 of right looper thread guide 9 (fig. 3).
Adjust looper thread guide according to fig. 3 to a clearance of 36.5 mm from the baseplate. When adjustment is correct, fully tighten screw 8.

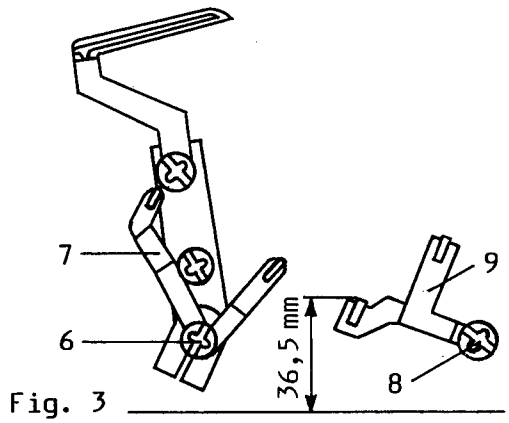


Fig. 3

Class 799

1. Removing the front cover

Take off reel holder, motor cover and standard cover. Loosen screw on face plate and open face plate. Remove arm cover after loosening the two retaining screws.
Remove screw 10 of looper disengaging lever 11 and take off disengaging lever (fig. 4).
Remove screw 12 of looper thread guide 13 and take off thread guide.
Take off front cover.

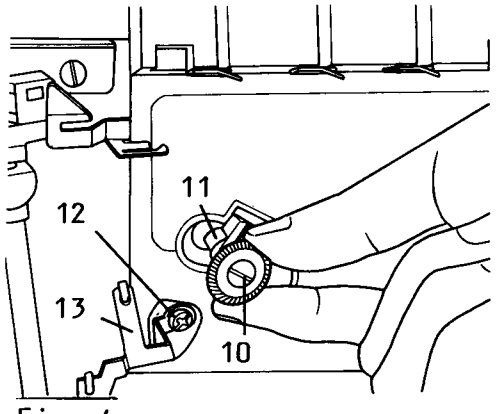


Fig. 4

2. Removing the baseplate

Take off reel holder, motor cover and standard cover. Loosen screw on face plate and take off arm cover and front cover. Remove three baseplate retaining screws. Open looper cover and work support and lift machine housing slightly.
Before the machine housing can be removed, the internal lead must be disconnected.

3. Adjusting the right overedge looper

The adjustments of the right overedge looper are identical to the adjustments of the hobbylock 797.
These adjustments have to be executed with absolute precision to ensure a proper functioning of the converter.

4. Converter ON/OFF

To switch the converter ON or OFF, refer to the instruction book, page 26.

5. Adjusting the looper thread guides

5.1 Right overedge looper

Turn handwheel in its normal direction until needle bar is at top of stroke. Loosen screw 14 and adjust thread guide 15 according to fig. 5. When adjustment is correct, fully tighten screw 14.

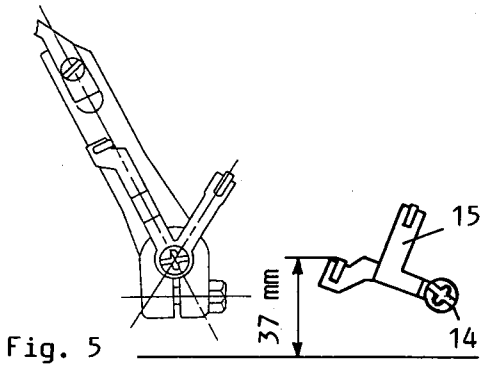


Fig. 5

5.2 Left overedge looper

After loosening screw 17, adjust left thread guide 16 according to fig. 6. When adjustment is correct, fully tighten screw 17.

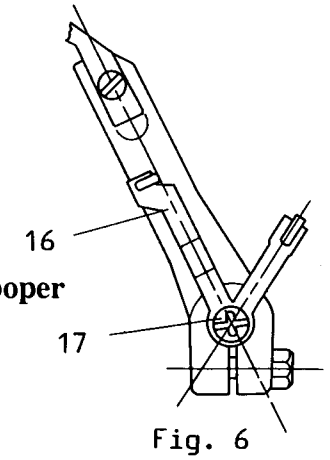


Fig. 6

5.3 Thread guide of the two-thread chainstitch looper

Turn handwheel in its normal direction until chainstitch looper is at its utmost right position. Loosen screw 18 of thread guide 19. Adjust clearance between baseplate 20 and lower edge of thread guide to 7 mm, as shown in fig. 7. When adjustment is correct, fully tighten screw 18.

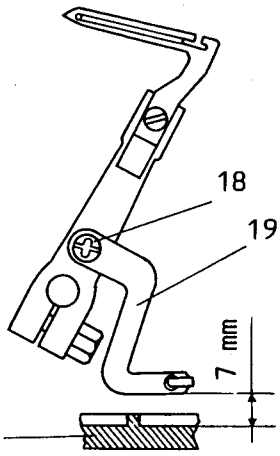


Fig. 7

HTI

PFAFF®

hobbylock

Modelle 783, 784, 786

Service-Manual

PFAFF · GRITZNERSTRASSE 11 · 7500 KARLSRUHE 41

Contents

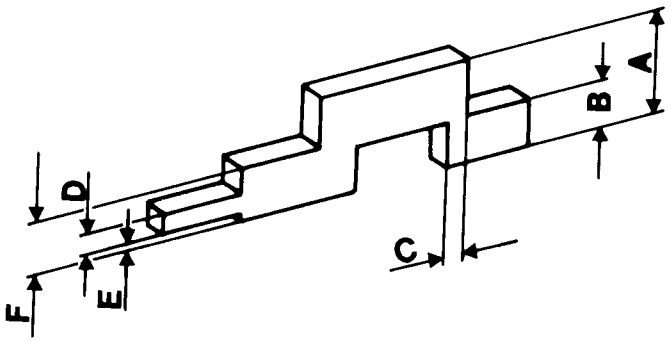
1 Specifications of the hobbylock 783, 784 and 786

Number of needles and threads:	2 needles, 4 threads 1 needle, 3 threads
Needles:	System 130/705 H, size Nm 75-90
Stitch width, HL 784 and 786:	4 thread: 7.2 mm max 3 thread: left needle 7.2 mm right needle 5 mm
Stitch width, HL 783:	3 thread: 5 mm
Stitch length, HL 783 and 784:	infinitely variable from 1-5 mm
Standard setting:	N = 3 mm
Stitch length, HL 786:	infinitely variable from 1-4 mm
Standard setting:	N = 3 mm
Differential feed, HL 786:	infinitely variable from 0.5-2 mm
Presser foot height:	5 mm
Presser foot:	movably mounted
Edge trimmer stroke:	7 mm
Sewing lamp:	built-in, 15 W
Master switch:	for mtor and sewing lamp
Lubrication:	manual
Motor:	115 V 78 W 220 V 78 W 240 V 78 W incl. 15 W for sewing lamp
Max. sewing speed:	1,300 s.p.m.
Foot control:	low-ohm foot control (warm) or electronic foot control with torque increase and switch for half and full speed.
Machine dimensions:	Width: 280 mm, depth: 330 mm height: 315 mm
Weight:	8 kg

2 Adjustment gauge for Hobbylock 783, 784 and 786

For adjustments use needle system 130/705 H, Nm 90.

Part number of adjustment gauge: 29-924 993-70/583



A = Needle bar height (12 mm)
B = Presser foot height (5 mm)
C = Right overedge looper to left needle clearance (3.54 mm)
D = Left overedge looper to left needle clearance (3.34 mm)
E = Feed dog height (1 mm)
F = Right overedge looper to looper lever clearance (6 mm)

3 Instructions for dismantling the housing parts of Hobbylock series 783 to 786

Pull catch **1** upwards and towards front, and remove cutting waste container towards top **(see Fig. 1)**

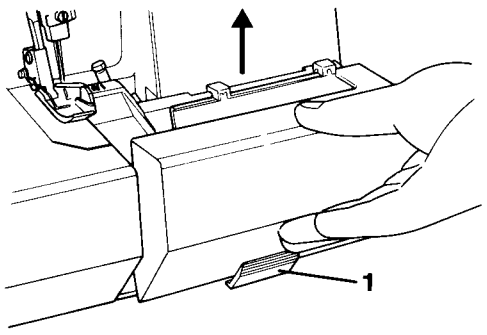


Fig. 1

Loosen retaining screw **2**. Remove reel stand assembly towards top **(see Fig. 2)**.

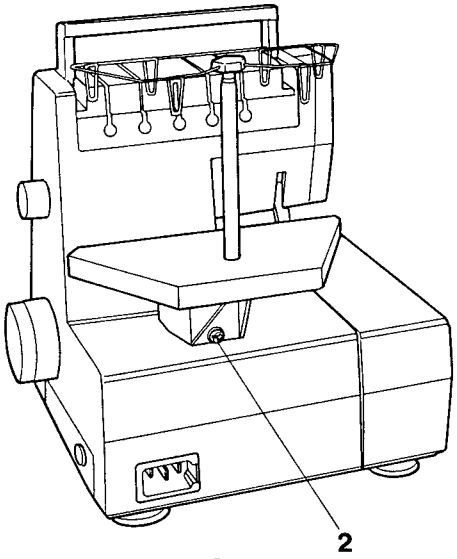


Fig. 2

Pull thread tension cover **3** towards front with both hands, as shown by arrows, and remove it **(see Fig. 3)**.

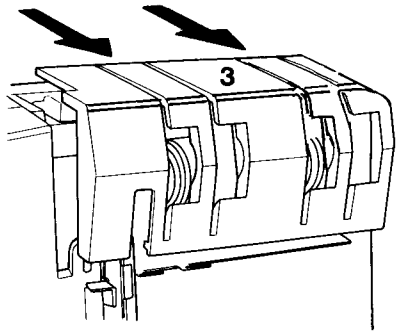


Fig. 3

Remove retaining screw **4** and take off face plate **(see Fig. 4)**

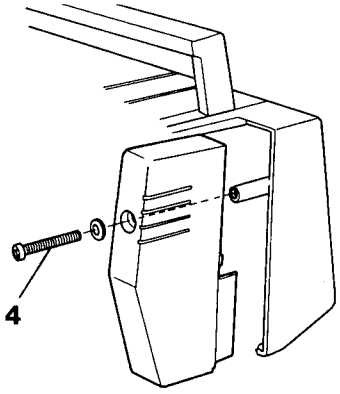


Fig. 4

Push looper cover fully to right and swing it downwards **(see Fig. 5)**.
To open cloth plate, push as shown by arrow.

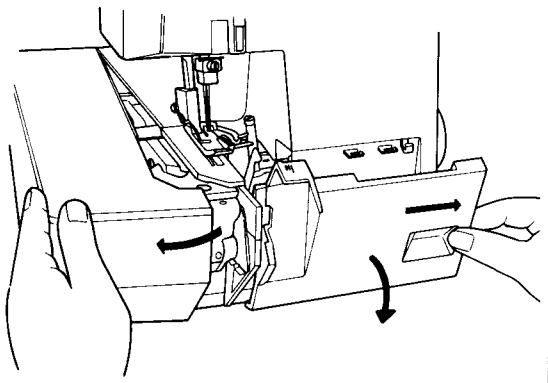


Fig. 5

Remove plastic cap **5**, take out screw of looper guide and remove looper guide **6 (see Fig. 6)**.
Take out screw **7** and take off cover **8**.

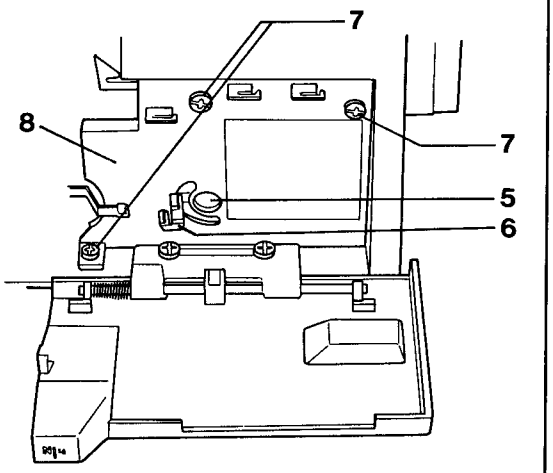


Fig. 6

Tilt machine back and take out four screws **9 (Fig. 7)**.
Set machine in its working position again, then carefully remove machine housing from baseplate.

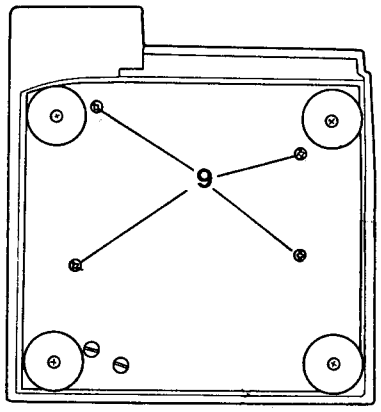


Fig. 7

Tilt machine back. Remove cover plate **10** with master switch as shown by arrow, making sure that locking catches do not break off **(Fig. 8)**.

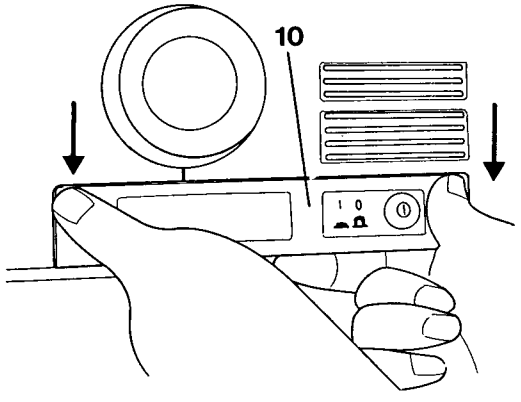


Fig. 8

Take out four retaining screws **11** and remove front housing cover **(see Fig. 9)**

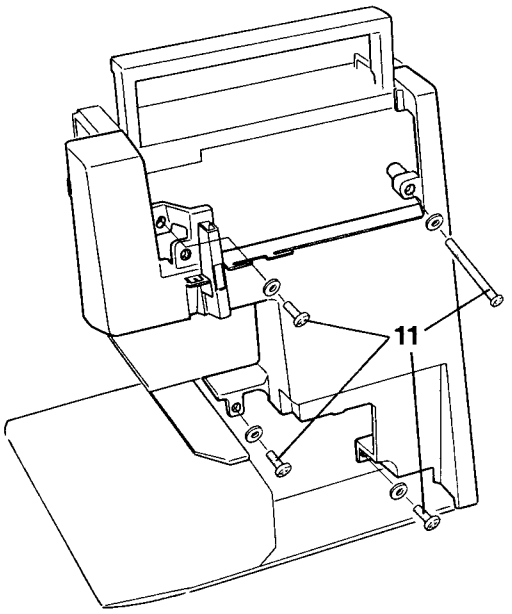


Fig. 9

Turn machine around, remove retaining screws **12** of rear housing cover and take off cover **(see Fig. 10).**

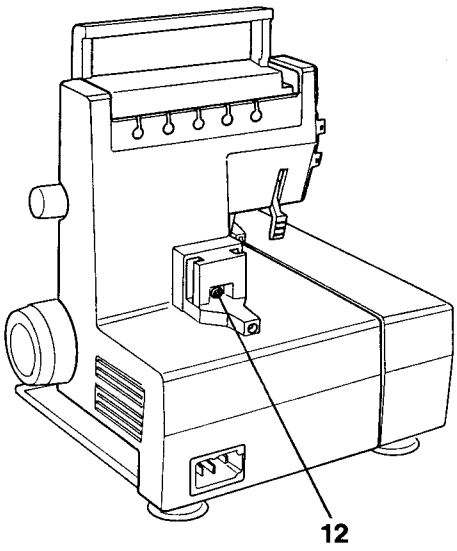


Fig. 10

Take out two retaining screws **13** and remove arm cover complete with carrying handle and thread tensions **(see Fig. 11).**

The housing parts are assembled in reverse order!

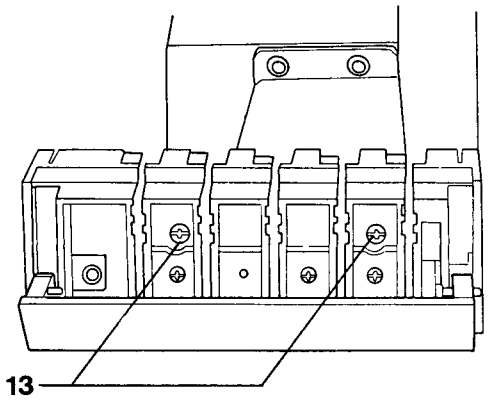


Fig. 11

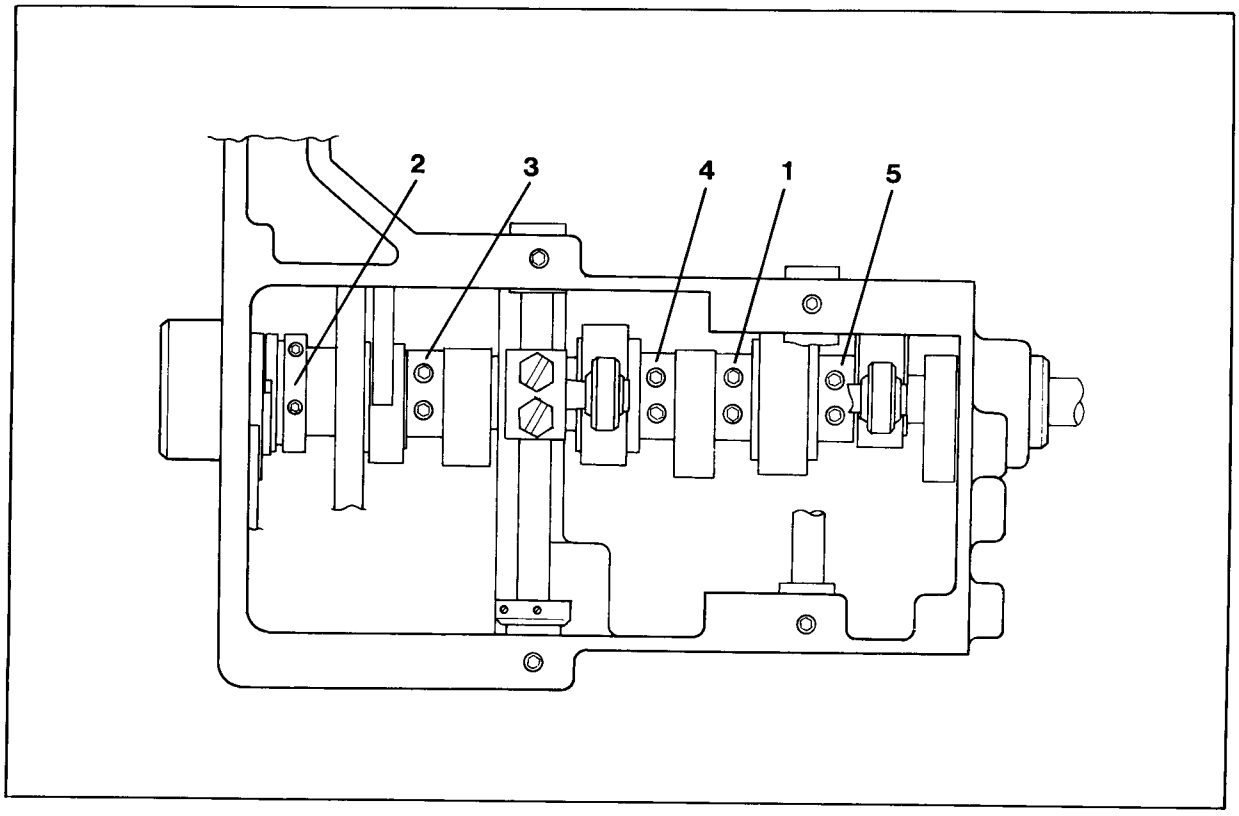
4 Adjustment requirements for Models 783, 784, 786

4.1 The requirement for all following adjustments is that the first screw in rotating direction is on the flat of the main shaft on the following eccentrics:

1 Drive eccentric for the needle bar drive.
2 Drive eccentric for feed lifting and driving motions.
3 Drive eccentric for the knife drive.

4.2 With the needle in its lowest position the left looper must be at its left point of reversal and the point of the descending right looper roughly at needle plate level.

For this setting, loosen the screws of left eccentric **4** and right eccentric **5** of the looper drive. Turn the eccentrics accordingly and tighten the screws firmly again.



5 Adjusting the needle height and needle entry point of the hobbylock 783

When the needle bar is at top dead centre, the vertical distance between needle and needle-plate surface must be 12 mm.
For this adjustment use the adjustment gauge **(dimension A, see Fig. 12).**

Ensure the needle is pushed fully into the needle holder.

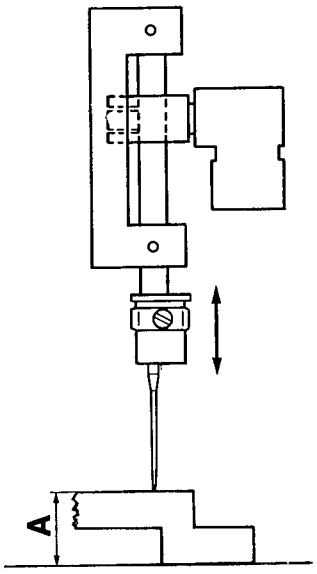


Fig. 12

Set needle bar at bottom dead centre and make sure that needle penetration point **1** is exactly in centre of needle plate and clearance from front of needle plate is 1 mm **(see Fig. 13).**

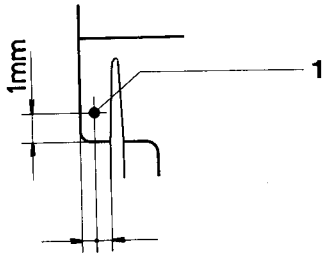


Fig. 13

Adjustment sequence:

Loosen screw **2** of needle bar connection. Set correct height by pushing needle bar **3** up or down. Make sure that needle holder stays parallel with machine housing. Tighten screw **2** again **(see Fig. 14).**

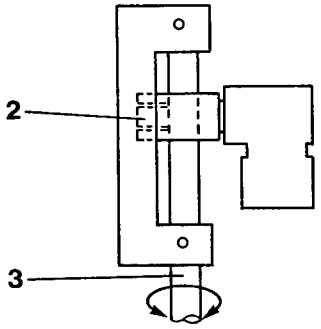


Fig. 14

The needle pentration point is adjusted by re-positioning needle plate mounting **4 (see Fig. 15).**
To do this, loosen two screws **5**, set needle penetration point by re-positioning needle plate mounting **4** and tighten two screws **5** again.

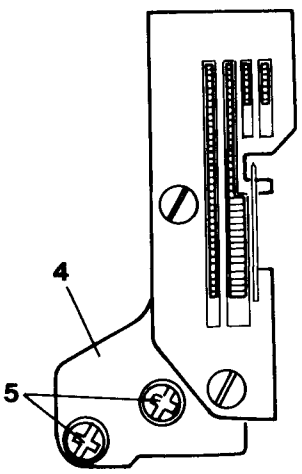


Fig. 15

6 Adjusting the needle height and needle penetration point of the hobbylock 784, 786

When the needle bar is at top dead centre, the vertical distance between the left needle and needle-plate surface must be 12 mm. For this adjustment use the adjustment gauge **(dimension A, see Fig. 16).**

Ensure needle is pushed fully into needle holder.

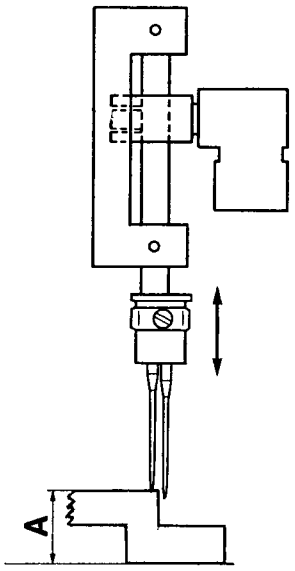


Fig. 16

Set needle bar at bottom dead centre and make sure that needle penetration points **1** are exactly in centre of needle plate and clearance from front of needle plate is 1 mm **(see Fig. 17).**

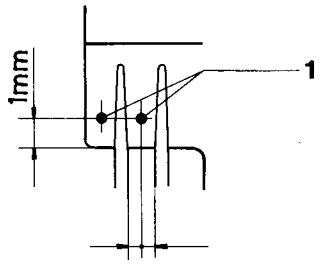


Fig. 17

Adjustment sequence:

Loosen screw **2** of needle bar connection crank. Now set correct height by moving needle bar **3** up or down. While doing so, make sure needle holder stays parallel with machine housing. Tighten screw **2** again **(see Fig. 18).**

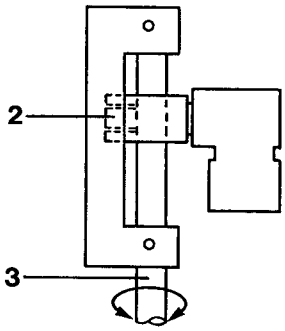


Fig. 18

The needle pentration points are adjusted by re-positioning needle plate mounting **4 (see Fig. 19).**
To do this, loosen two screws **5**, set needle penetration point by repositioning needle plate mounting **4**, and tighten two screws **5** again.

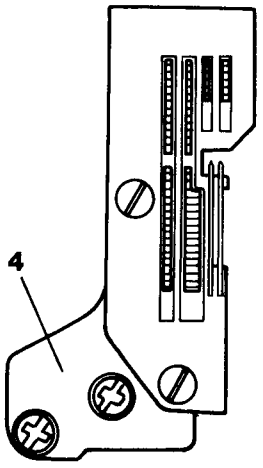


Fig. 19

7 Adjusting the presser bar height

As shown in **Fig. 20**, the fabric clearance must be 5 mm. This adjustment is made with the adjustment gauge **(dimension B)** by altering the height of the presser bar.

For this adjustment align needle hole in presser foot with that of needle plate.

Adjustment sequence:

Raise presser-bar lifter as shown in **Fig. 21**.

Loosen screw of presser bar retainer **1** and set height of presser foot by pushing needle bar up or down, then tighten screw **1** a little **(see Fig. 21)**.

Align needle hole in presser foot **2** with that of needle plate **3** by turning presser bar **(see Fig. 22)**.
Now fully tighten screw **1**. During this adjustment also make sure presser foot rests evenly on needle plate and feed dog.

Important!

Presser foot holder 5 must be pushed fully upwards and rest against retaining screw 4 (see Fig. 23).

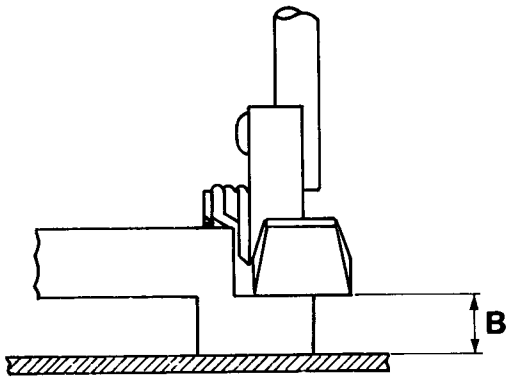


Fig. 20

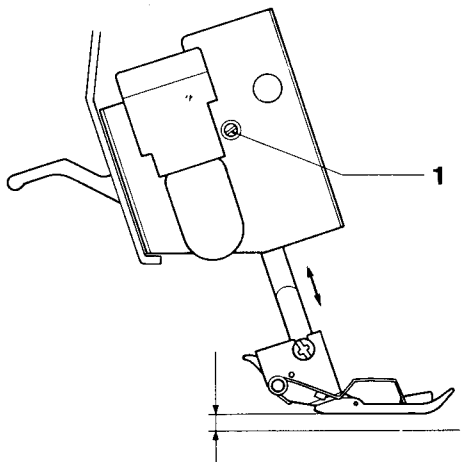


Fig. 21

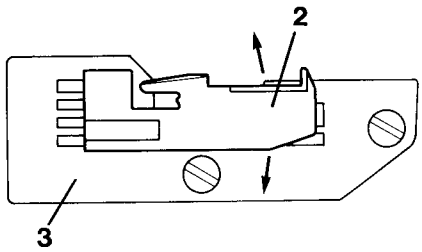


Fig. 22

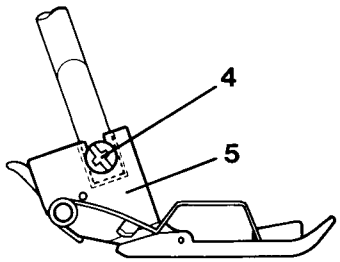


Fig. 23

8 Adjusting the feed dog of the hobbylock 783 and 784

The feed dog must be centred in the feed slots in the needle plate and have a clearance of **0.1 mm** from the needle plate at the side **(see Fig. 24)**.

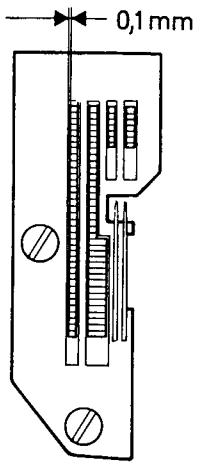


Fig. 24

Adjustment sequence:

Press small plastic lever **1** as shown by arrow and remove presser foot shoe with presser bar lifter raised **(see Fig. 25)**.

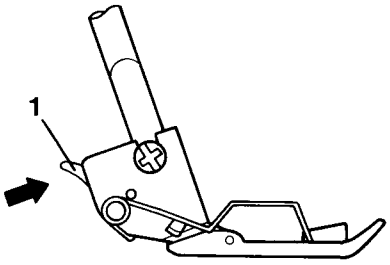


Fig. 25

Remove two needle plate screws **2** and take off needle plate **3** **(see Fig. 26)**.

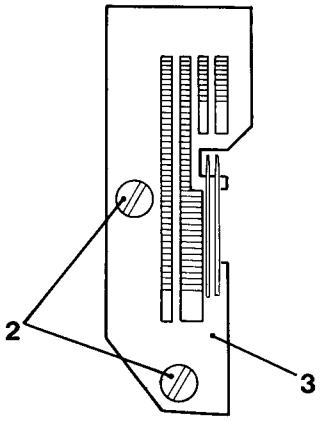


Fig. 26

Loosen two feed dog screws **4** and position feed dog according to feed slots **(see Fig. 27)**.

Tighten feed dog screws **4** a little. Check that adjustment is correct, then tighten feed dog screws **4** firmly and re-fit needle plate.

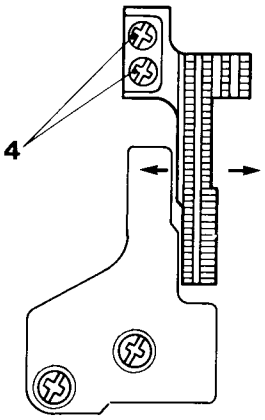


Fig. 27

9 Adjusting the feed dog of the hobbylock 786

9.1 Lateral adjustment of the feed dogs

The main feed dog and differential feed dog must clear the needle plate by the same amount at their left sides **(see Fig. 28).**

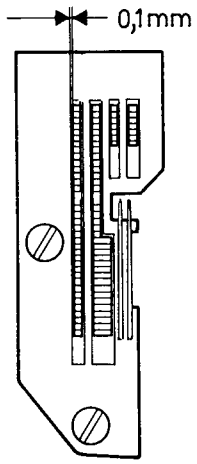


Fig. 28

Adjustment sequence:

Press small plastic lever **1** as shown by arrow and remove presser foot shoe with presser bar lifter raised **(see Fig. 29).**

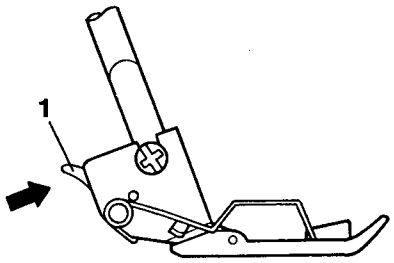


Fig. 29

Remove two needle plate screws **2** and take off needle plate **3** **(see Fig. 30).**

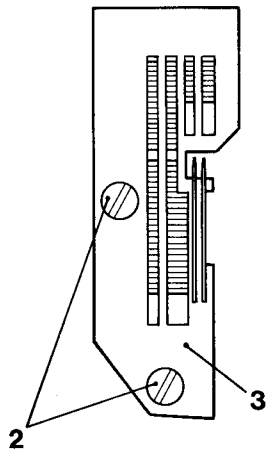


Fig. 30

Loosen feed dog screws **4** **(see Fig. 31)** and position main feed dog until main- and differential feed dog are flush.

Tighten feed dog screws **4** a little.

Check that adjustment is correct, then fully tighten feed dog screws **4** and re-fit needle plate.

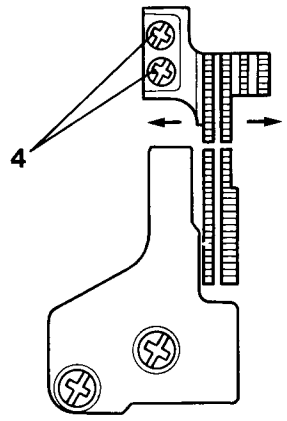


Fig. 31

9.2 Adjusting the feed dog in relation to the needle plate

N.B.:
Only carry out this adjustment if absolutely necessary.

The clearance between feed dogs and needle plate must be 0.1 mm **(see Fig. 32)**.

Adjustment sequence:

Set clearance after loosening following parts **(Fig. 33)**:

Screw **1** of feed regulator control knob, feed lifting and driving eccentric **2**, knife drive eccentric **3**, and retaining screw of shaft **4**.

Position both feed bars so that lateral clearance from needle plate is 0.1 mm.

Move knife drive eccentric **3** fully to left and tighten its two retaining screws.

Move feed lifting and driving eccentric **2** to right against feed bar and tighten both retaining screws.

Move shaft to left, thus removing any play between joints, then tighten screw of shaft **4**.

Adjust screw **1** to set slight binding movement of feed regulator knob, and check machine for bind-free rotation.

10 Adjusting the differential feed dog height, hobbylock 786

The main- and differential feed dogs must be at the same height **(see Fig. 34)**.

Adjustment sequence:

Set longest stitch. Set differential feed at **"2"**. Turn hand wheel until main feed dog is flush and parallel with needle plate. Loosen screw **5** of differential feed dog. Position feed dog so that both are at same height.

Tighten screw **5**.

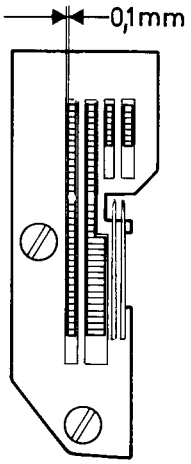


Fig. 32

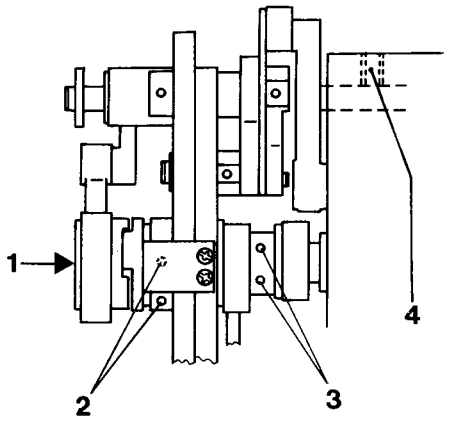


Fig. 33

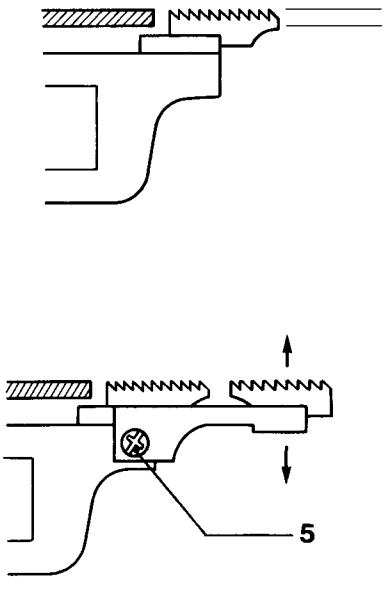


Fig. 34

11 Adjusting the feed regulator

When the mark on the feed regulator is set at "N" the stitch length must be 3 mm.

Hold hand wheel and set shortest stitch length. Adjustment is correct when mark on adjusting ring is in line with figure "1" on adjusting scale **(see Fig. 35).**

To adjust, loosen screw **1**. Turn stitch length scale until mark on adjusting ring is aligned with figure "1". Tighten screw **1**.

Check:

At the shortest and longest stitch lengths the mark must be aligned with figures "1" and "5" respectively.

12 Adjusting the differential

When mark "N" of the control knob is aligned with the dot on the housing cover the feed stroke of both feed dogs must be the same **(Fig. 36).**

To check setting of differential, fit housing cover with three screws **2 (Fig. 37).**
Loosen screw **3** of adjusting ring **(Fig. 38)** and turn adjusting ring so that screw **3** is in middle of elongated hole. Tighten screw **3** and set knob **4** at "N" **(Fig. 38).** Mark both feed bars **(Fig. 39).**
Check stroke of both feed dogs at longest stitch length. If strokes are unequal turn adjusting knob A a little until strokes are equal. Loosen screw **3** of adjusting ring. Turn adjusting ring so that mark "N" is aligned with dot on front housing cover **(Fig. 36).**

Tighten screw **3 (Fig. 38).**

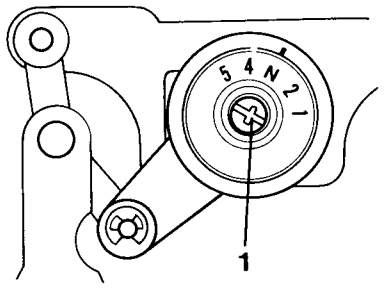


Fig. 35

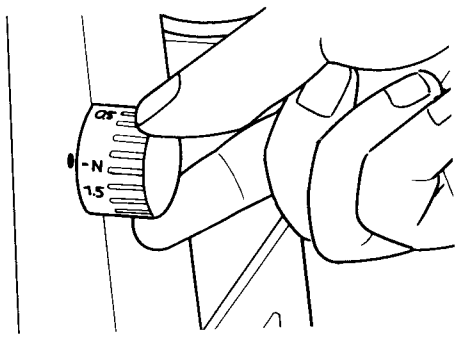


Fig. 36

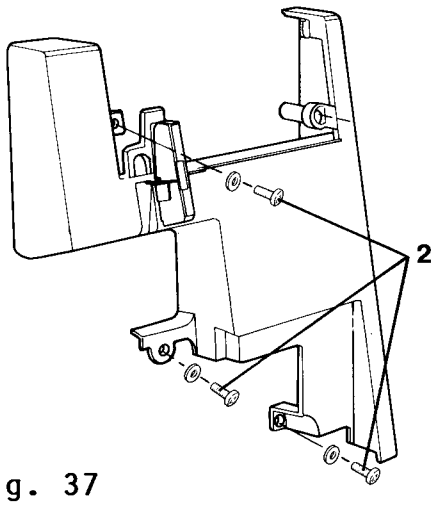


Fig. 37

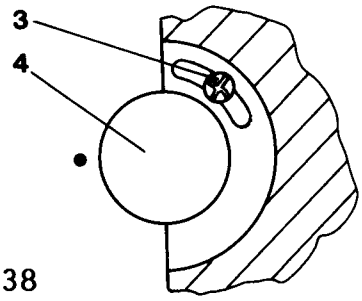


Fig. 38

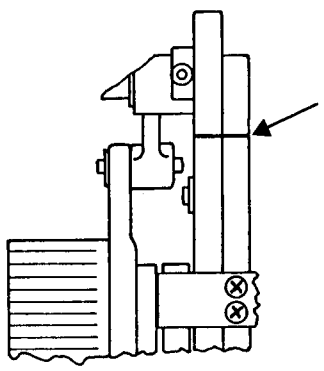


Fig. 39

13 Adjusting the left overedge looper

Loosen left looper screw **1** and set a clearance of 2.1 mm between looper **2** and needle plate **3** **(see Fig. 40)** Tighten looper screw **1** again.

Remove needle plate and needle guard complete. Loosen screws of left looper lever **5** **(Fig. 42)** and set a clearance of 0 to 0.1 mm between point of looper **2** and right needle **4**. Tighten screw **5** again. Loosen clamp screw of needle bar and turn it slightly to set clearance between left needle and looper point **(see Fig. 41)**. Tighten clamp screw again.

The clearance between left looper **2** and left needle must be 3.34 mm when the looper is in its far left position. This adjustment is made after loosening screw **5** of the left looper lever **(see Fig. 42)**. Afterwards set looper in relation to needle using adjustment gauge **(dimension D, see Fig. 43)**.

When the point of left looper **2** passes the centre of the left needle on its movement to the right it must be 1.4 mm above the eye of the left needle **(Fig. 44)**. This adjustment is made by loosening two eccentric screws **6** of left looper drive and turning eccentric accordingly **(Fig.45)**. Tighten two screws **6** again.

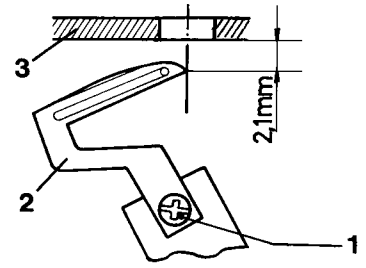


Fig. 40

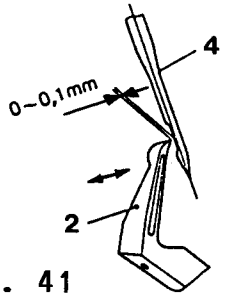


Fig. 41

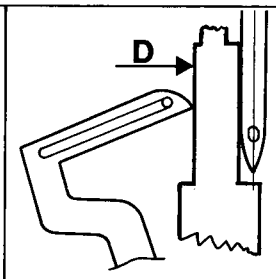


Fig. 43

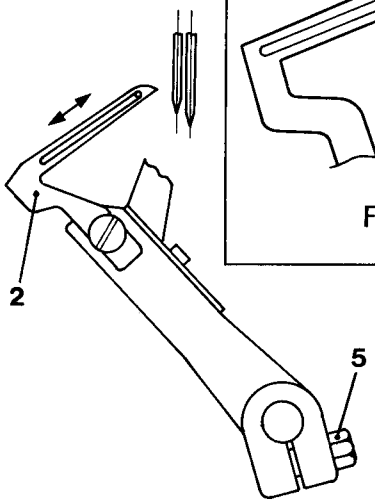


Fig. 42

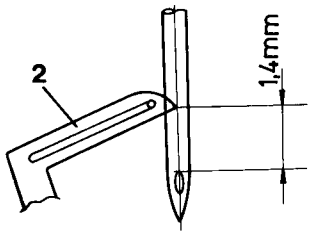


Fig. 44

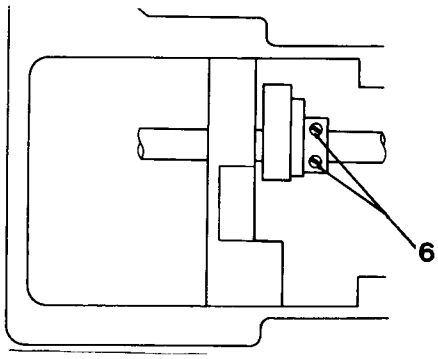


Fig. 45

14 Adjusting the right overedge looper

Position right looper **1** in right looper lever **2** to set a clearance of 6 mm. For this adjustment use adjustment gauge **(dimension F, see Fig. 46)**. After adjustment, tighten screw **3** again.

When the right looper is at its far left position the clearance between the looper eye and the left needle must be 3.54 mm. For this adjustment loosen screw **4** of the right looper arm and position drive arm 5 up or down **(see Fig. 47)**. Adjust, using adustment gauge **(dimension C, see Fig. 48)**. Afterwards tighten screw **4** very firmly.

When both loopers cross each other as shown in **Fig. 49** the clearance between the point of right looer **1** and the head of left looper **2** must be from 0.2 to 0.5 mm. To do this, loosen two eccentric screws **6** of right looper drive **(see Fig. 50)**. Afterwards turn eccentric until required clearance is set. Also, the clearance between right looer point **1** and the back of left looper **2** must be 0.1 to 0.2 mm. To adjust, loosen screw **3** of right looper. Move right looper forward or backward. Afterwards tighten screw **3** again.

Check:

When the right overedge looper is moving from right to left and the looper eye has reached the left needle, the needle should be positioned as shown in **Fig. 51.**

Tolerance: Needle point in looper eye.

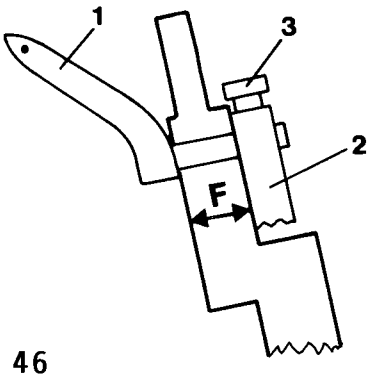


Fig. 46

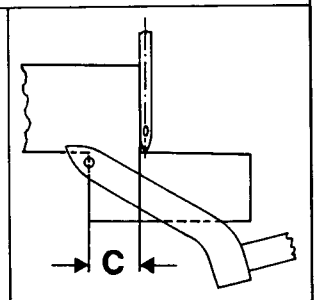


Fig. 48

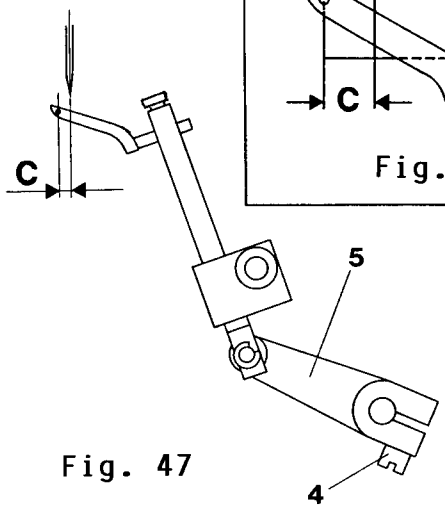


Fig. 47

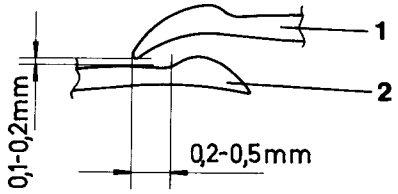


Fig. 49

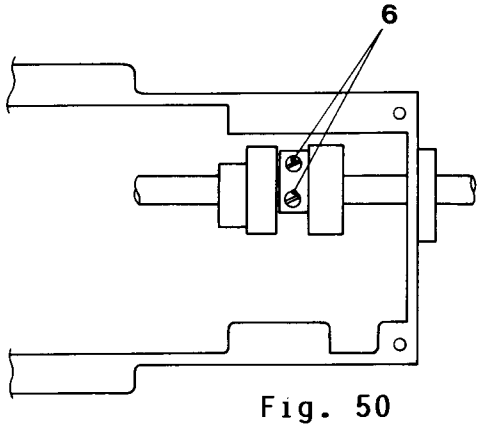


Fig. 50

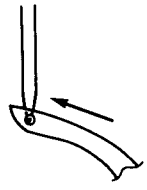


Fig. 51

Finally, check that right looper **1** does not touch the needle when you turn the hand wheel anti-clockwise. The clearance between looper and needle must be 0.1 to 0.2 mm **(see Fig. 52)**.

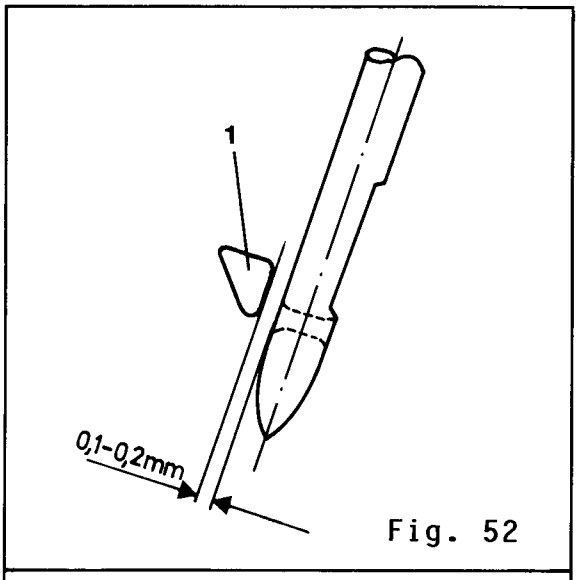


Fig. 52

Raise the presser foot and check that the clearance between right looper **1** and chaining finger **7** is at least 0.3 mm **(see Fig. 53)**.

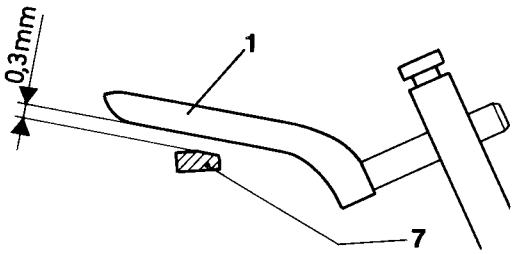


Fig. 53

15 Adjusting the needle guard

There are two needle guards, a front one and a rear one. First set the rear needle guard. Both adjustments are carried out when the left looper moving to the right just passes the centre line of the left needle **(Fig. 54)**.

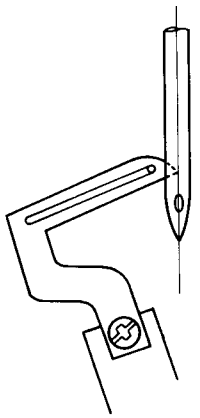


Fig. 54

Rear needle guard:

In this position the needle shoud rest at point "A" of needle guard **3 (Fig. 55)**.

Adjustment:

Loosen screw **7** and push rear needle guard **8** fully to the left.
Tighten screw **7 (Fig. 56)**.
Now screw setting screw **5** in or out to set rear needle guard in relation to needle.

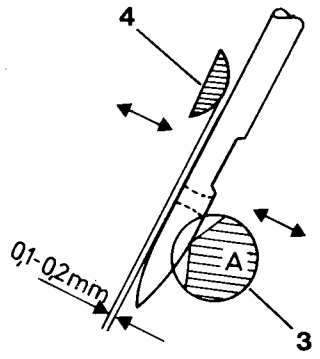


Fig. 55

Front needle guard:

The clearance between needle guard **4** and the needle should be 0.1 to 0.2 mm **(Fig. 55)**.
This adjustment is made after loosening screw **6** of the needle guard and then fixed by tightening the screw again **(Fig. 57)**.

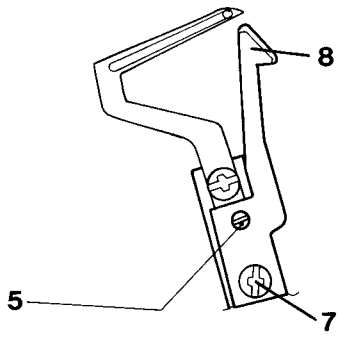


Fig. 56

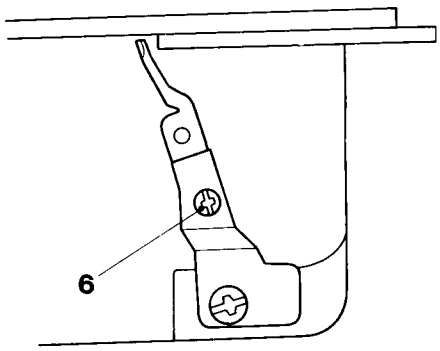


Fig. 57

16 Adjusting the knives

Bottom knife:

To adjust bottom knife, loosen screw **1 (Fig. 58)**. Position top edge of knife flush with needle plate surface **2 (see Fig. 59)**.
Tighten retaining screw 1 of bottom knife **(Fig. 58)**.

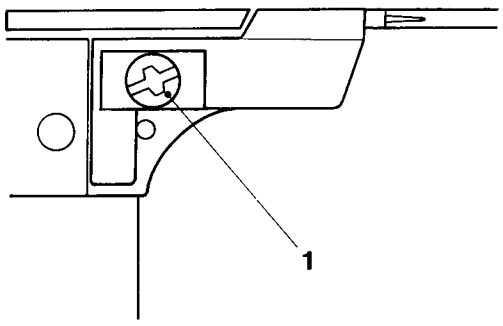


Fig. 58

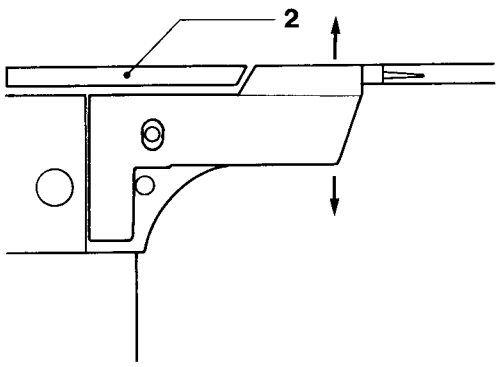


Fig. 59

Top knife:

When top knife **3** is at its lowest position it should overlap bottom knife by 0.5 to 1 mm **(see Fig. 60)**.

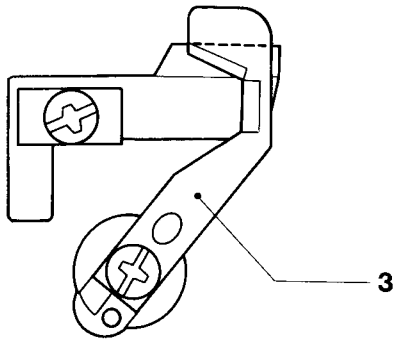


Fig. 60

Now loosen clamp screw **4** of top knife and adjust so that top and bottom knives overlap by 0.5 to 1 mm **(see Fig. 61)**.

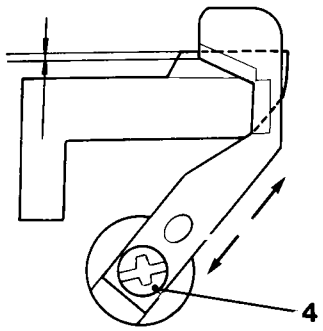


Fig. 61

17 Adjusting the looper thread guides

Turn balance wheel in direction of arrow until needle bar is at top dead centre.

Loosen screw **1** of looper thread guide **(Fig. 62)**.

Adjust looper thread guide as shown in **Fig. 62**. After adjustment tighten screw **1**.

Loosen screw **2** of right looper guide **(Fig. 62)**.

Adjust looper thread guide as shown in **Fig. 62**.

After adjustment tighten screw **2**.

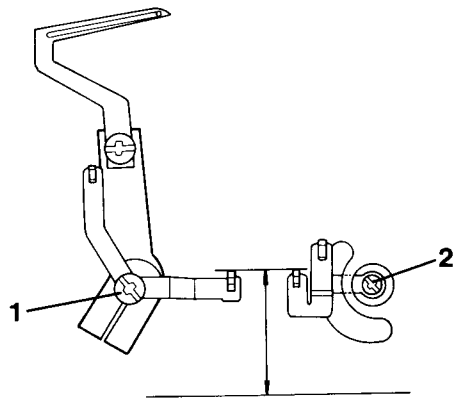


Fig. 62

18 Electrical safety test
(time required: 5 to 10 minutes)

Testing of repaired or used sewing machines according to VDE Regulation 0701 using Metratester II or III. According to the appliance safety law of 24.6.68 and the amendments of 13.8.79 the VDE Regulations are now generally recognized as applicable to electrical engineering and form the basis for testing the electrical safety of technical appliances.

The required electrical tests are stipulated in Art. 3 of the regulations for repair, modification and testing of used electrical appliances (VDE 0701, issue 9.71).

We are committed to carry out tests according to VDE 0701 on all electrical appliances after repair.

In European countries there are similar regulations which to a great extent are identical with VDE 0701. Therefore, tests should be carried out according to VDE 0701.

Please also observe the additional Pfaff instructions for Metratester No. 21532 Wi 0474.

19 Electrical safety test with Metratester II

I Mains voltage test: volts (V)

* For all following tests insert plug of Metratester in mains socket (if necessary turn until yellow lamp lights up, **see Fig. 48**).

* Insert plug of sewing machine in left socket of Metratester.

* Set switch at V MAINS (scale V).

* Run machine.

* Reading: 220 V $\pm$ 10%
or: 110 V $\pm$ 10%

II Appliance current: amperes (A)

* Leave sewing machine plug in left socket **(Fig.64)**.

* Set switch at A x 1 (scale IV).

* Run machine.

* Reading: 0.5 A max.
or: 1 A max. (for 110V)

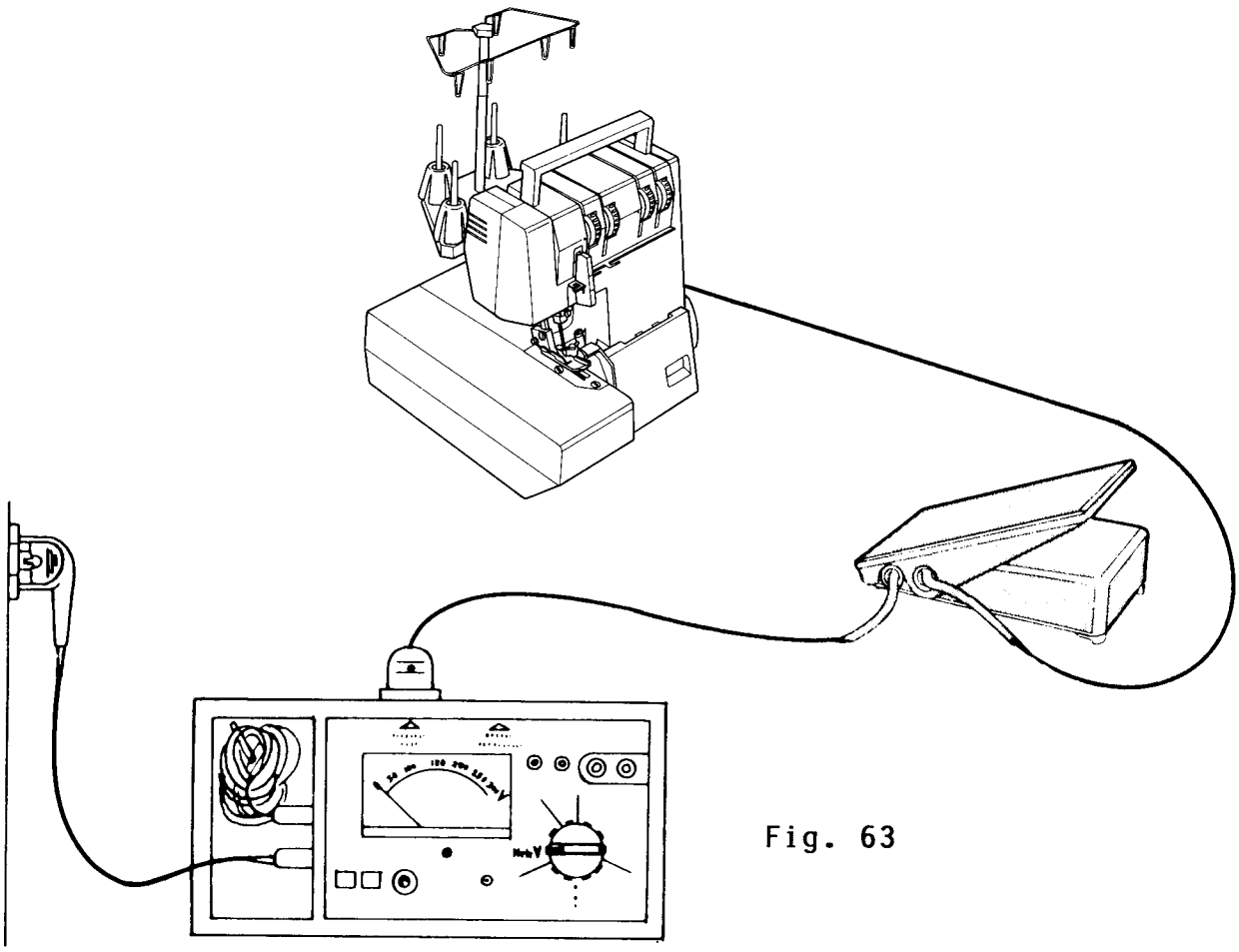


Fig. 63

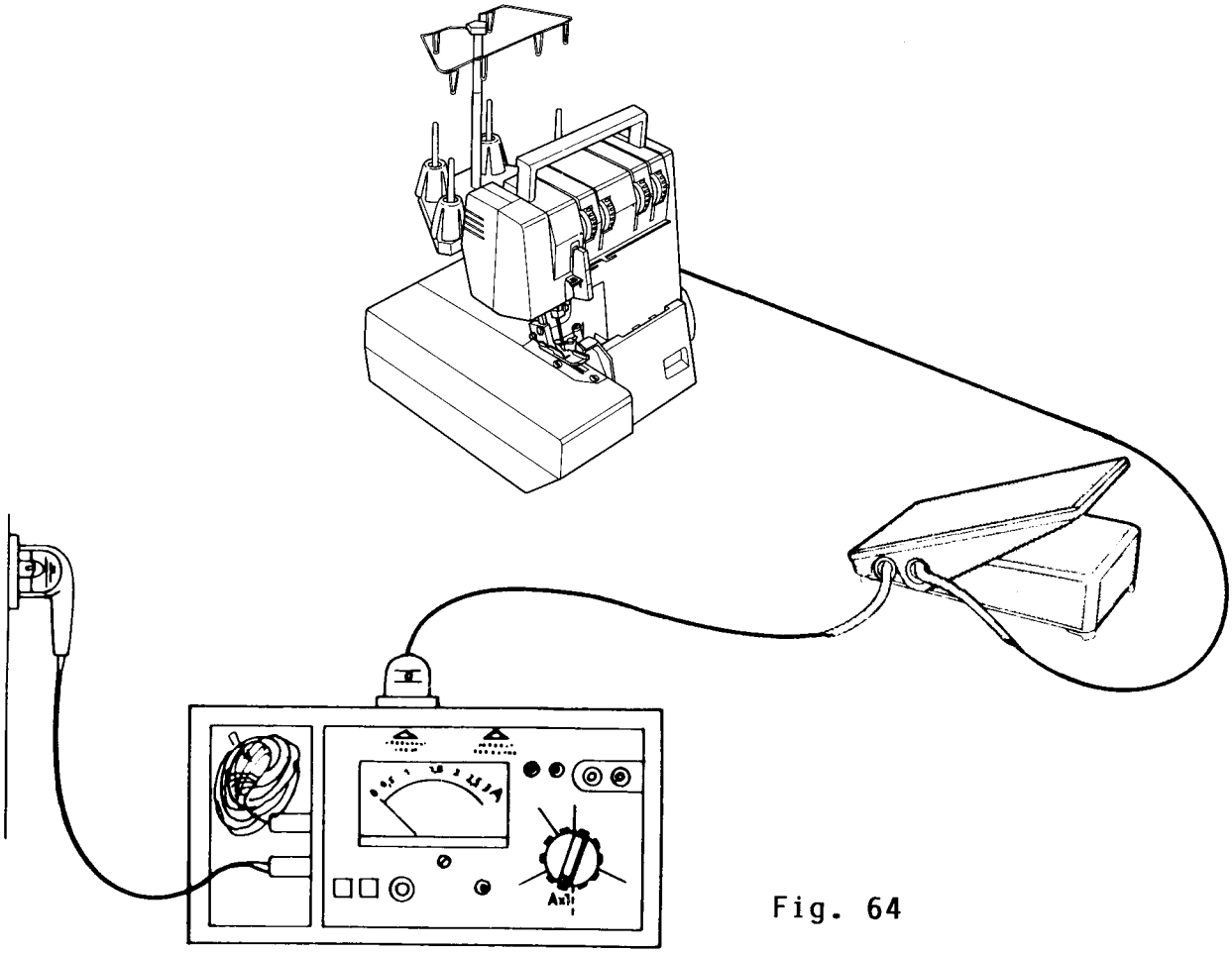


Fig. 64

III Insulation resistance: ohms (Ω)

* Insert sewing machine plug in right socket **(see Fig. 65)**.
* Attach lead of Metratester to needle bar.
* Set switch at MΩ (scale III).
* Reading: 5 MΩ min.

IV Leakage current: amperes (A)

* Leave sewing machine plug in right socket **(see Fig. 66)**.
* Attach lead of Metratester to needle bar.
* Set switch at mA (scale II).
* Reading: 0.5 mA max.
* Wrap foot control in metal foil.
* Attach lead of Metratester to metal foil, and measure.

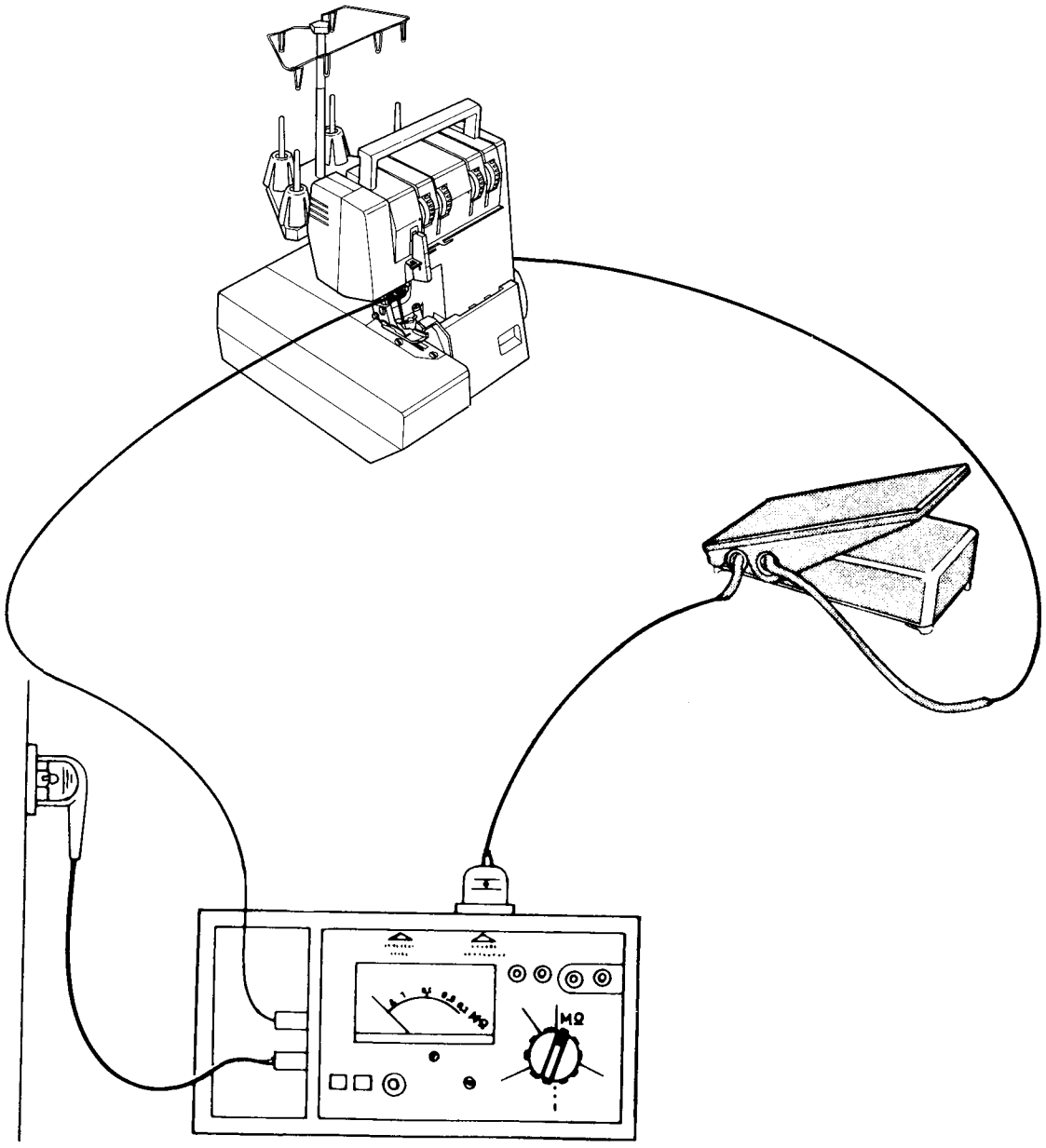


Fig. 65

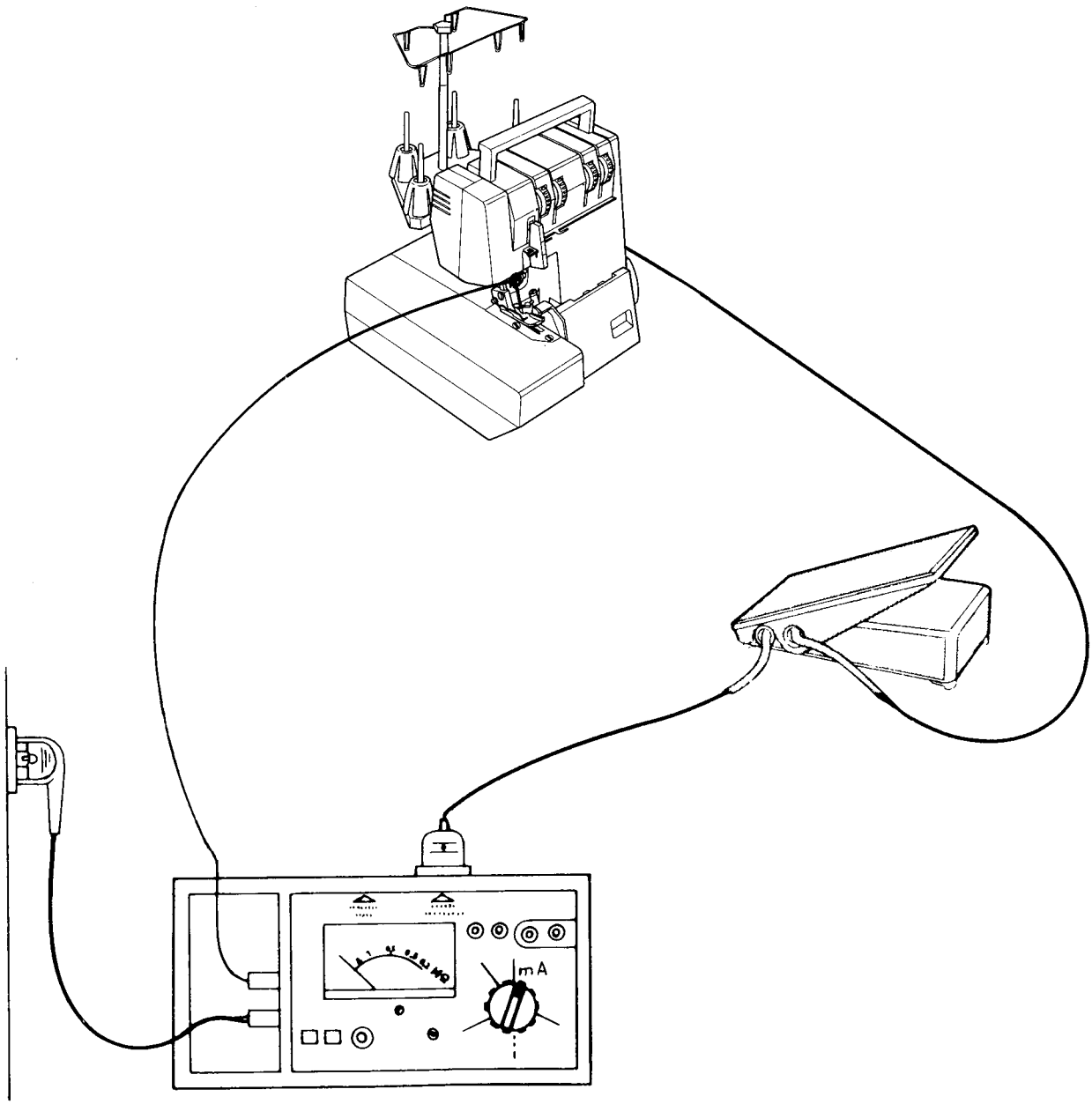


Fig. 66

20 Leakage current measurement of motor assemblies
(time required: 5 minutes)

When a motor assembly is changed or parts fitted (field, armature or capacitor) the leakage current has to be tested before fitting in the machine.

* Set switch at mA (scale II).

* Fit angular plug No. 92-924800-04 and screw on nut No. 92-320068-05. Connect the two leads as shown in **Fig. 67**.
* Connect two leads to Metratester at right **(see Fig. 67)**.
* Reading: 0.75 mA max.

21 Measures in cases of incorrect readings

Item I Inform owner of house/apartment.

Item II If current input deviates greatly from indicated reading, although there is no mechanical binding in the machine, motor is defective ahd has to be exchanged or repaired.

Item III If insulation resistance is lower than indicated reading, defective parts must be located by methodical testing and replaced or repaired.

Item IV Also locate defective parts with excess leakage current by methodical testing and replace or repair.

Item V Return motor to factory.

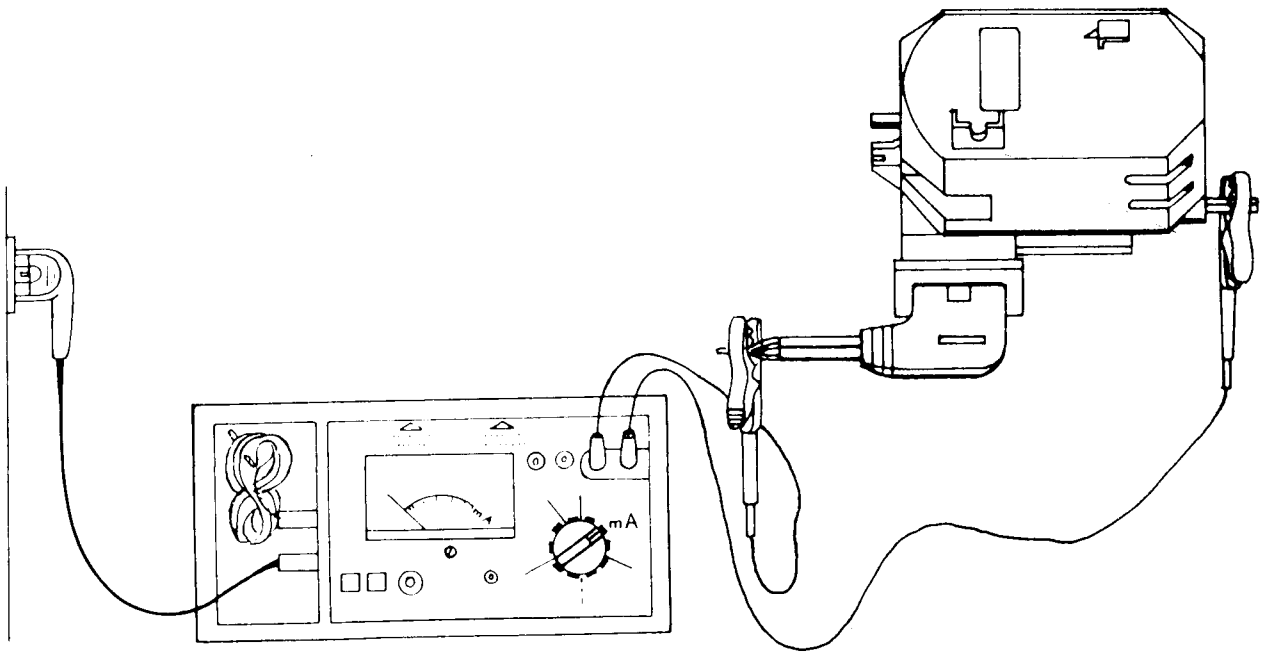


Fig. 67

22 Electrical safety test with Metratester III

I Mains voltage test: volts (V)

* For all following tests insert plug of Metratester in mains socket.
* The left lamp for the mains voltage must light up continuously **(Fig. 68)**.
* Press right grey button. The right indicator lamp for the neutral wire must light up.
* Touch left metal button for finger contact: the right lamp for the neutral wire must not light up.
* Insert sewing machine plug in left socket of Metratester.
* Set switch at 250V (scale I).
* Run machine
* Reading: 220V ± 10%
  or: 110V ± 10%

II Appliance current: amperes (A)

* Leave sewing machine plug in left socket **(Fig.69)**.
* Set switch at 5A.
* Run machine.
* Reading: 220V ± 10%
  or: 110V ± 10%

III Insulation resistance test: ohms (Ω)

* Insert sewing machine plug in right socket **(Fig. 70)**.
* Set switch at MΩ (Scale II).
* Reading: 5 MΩ min.

IV Leakage current: amperes (A)

* Leave sewing machine plug in right socket **(Fig. 71)**.
* Set switch at mA (scale III).
* Reading: 0.5 mA max.

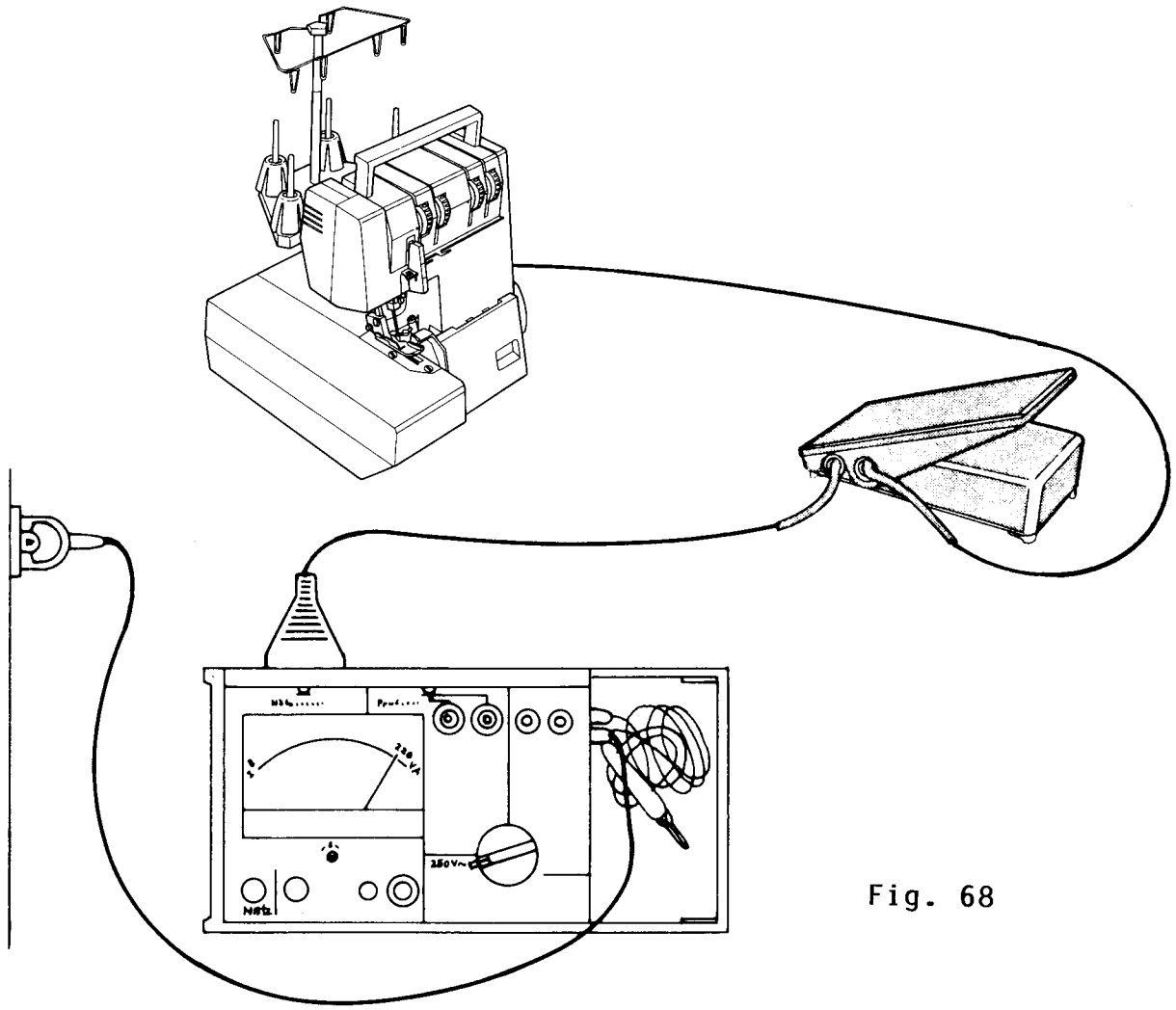


Fig. 68

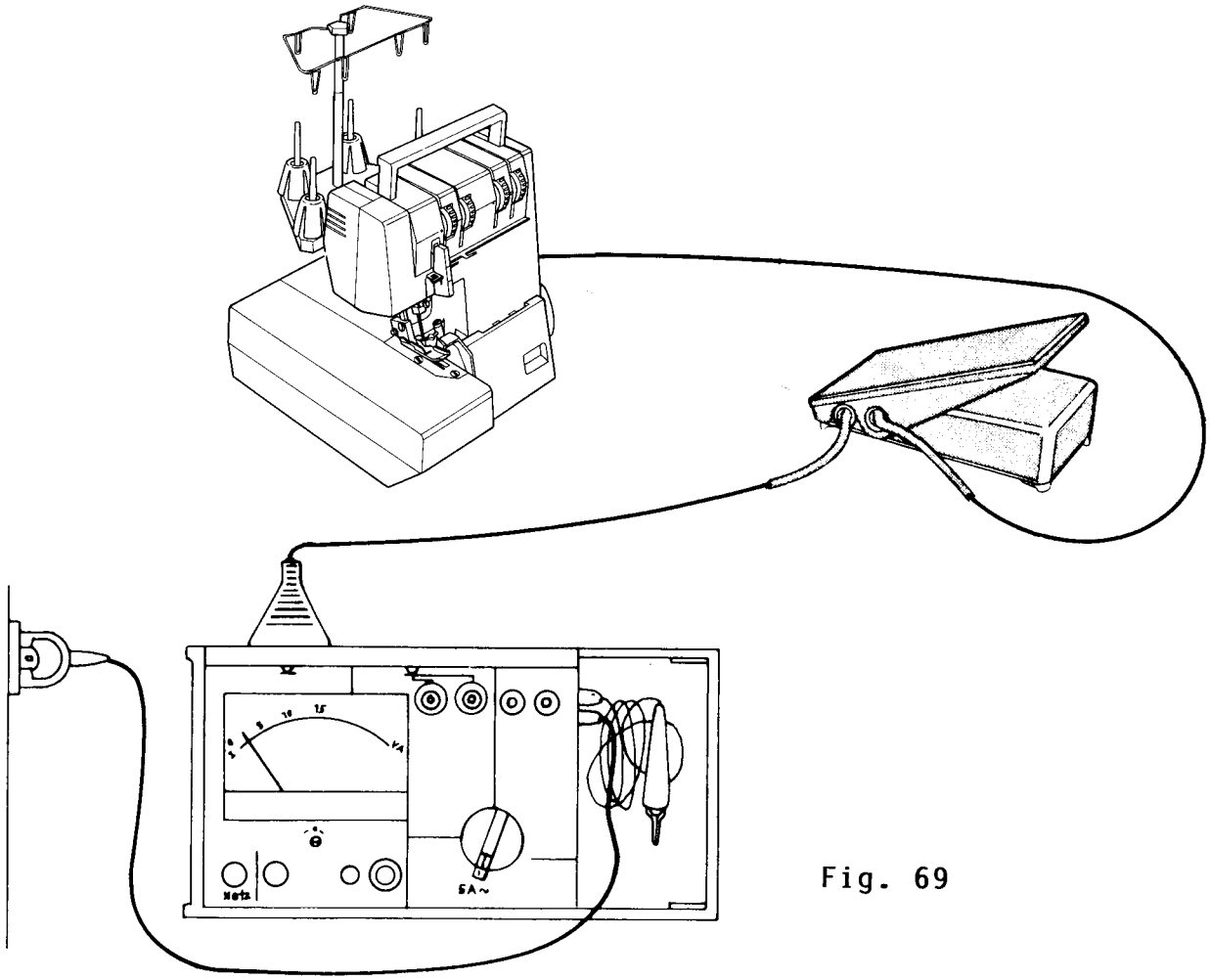


Fig. 69

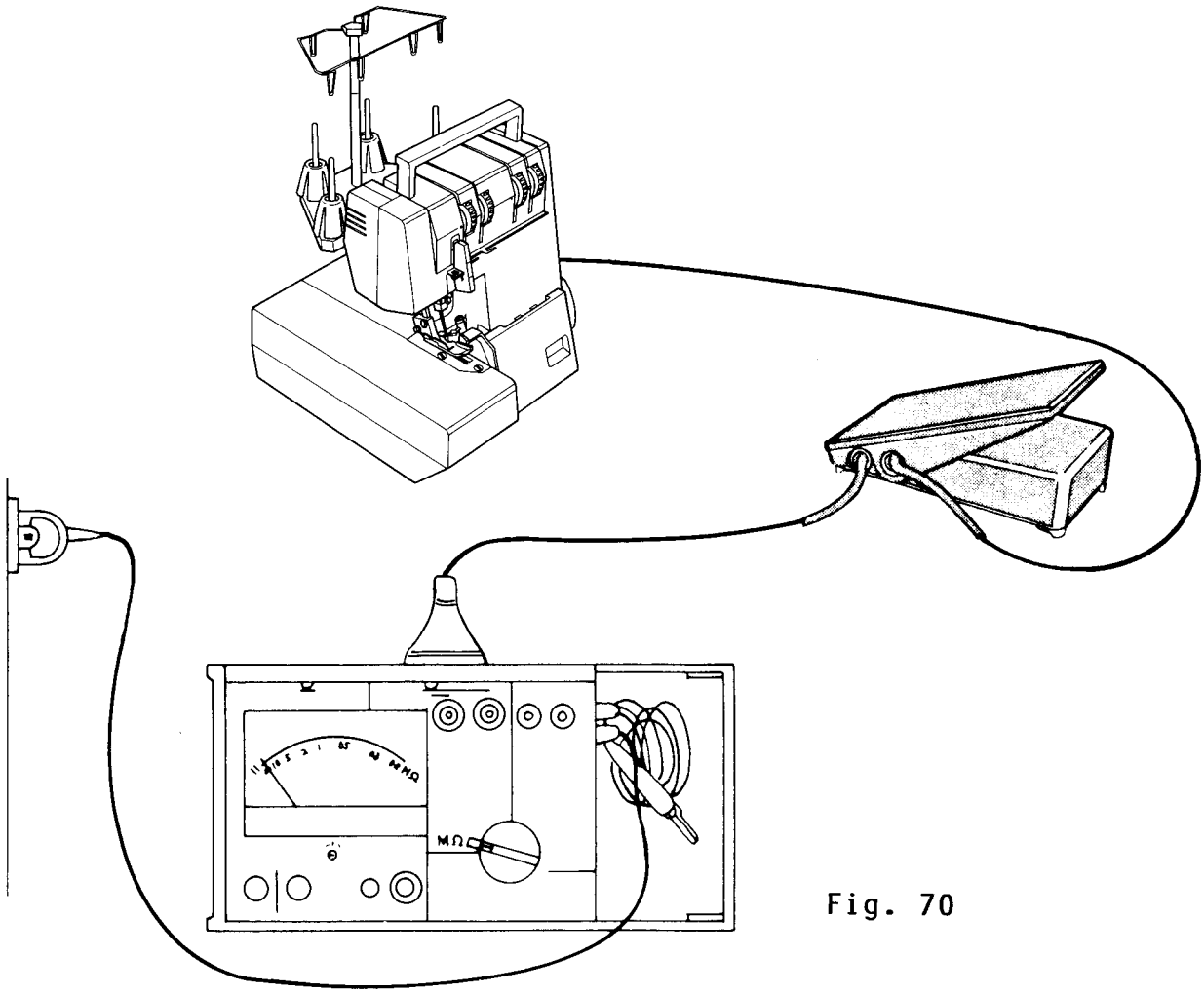


Fig. 70

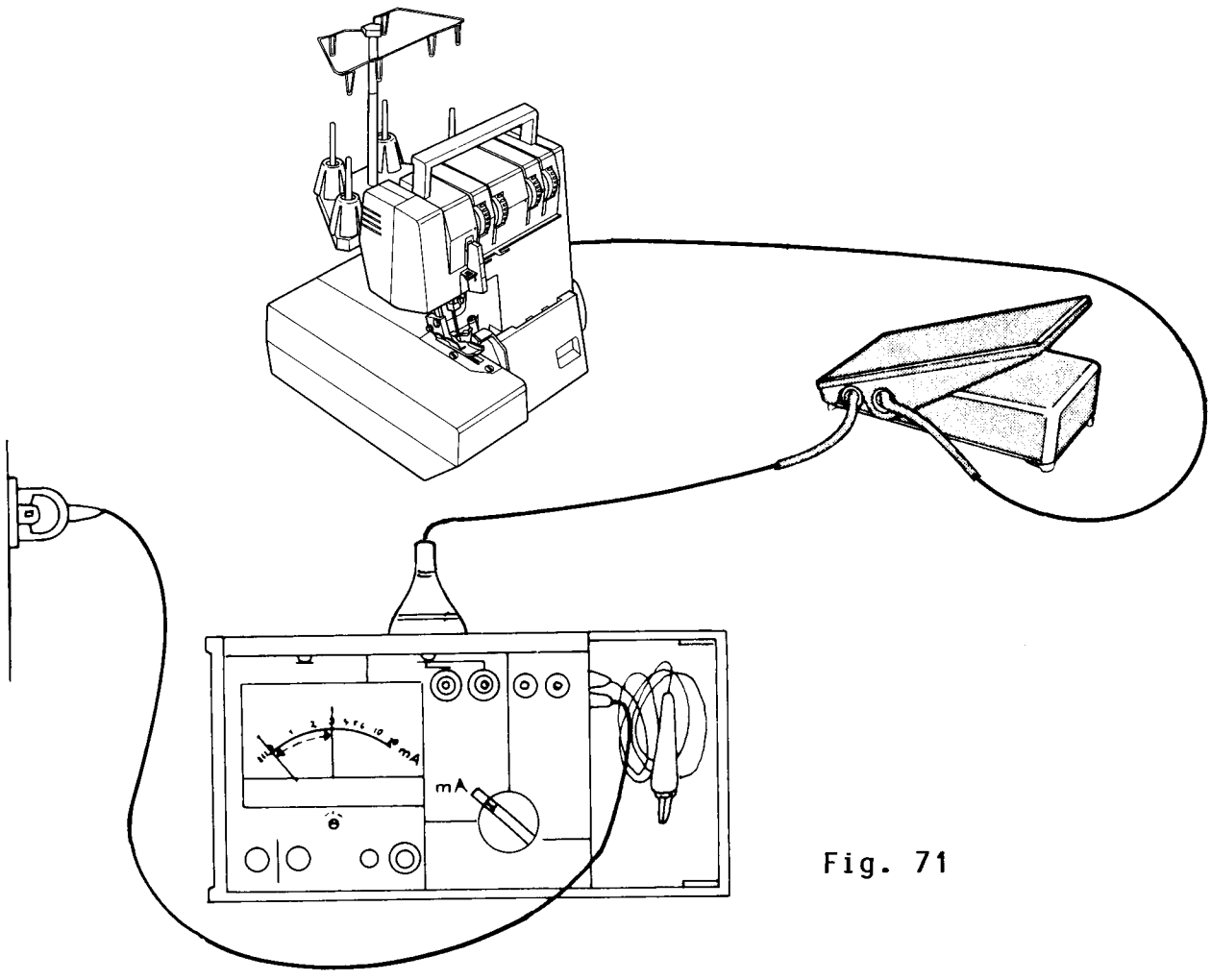


Fig. 71

23 Leakage current measurement of motor assemblies
(time required: 5 minutes)

V When a motor assembly is changed or parts fitted (field, armature or capacitor) the leakage current has to be tested before fitting in the machine.

* Set switch at mA (scale III, **see Fig. 72**)

* Fit angular plug No. 92-924800-04 and screw on nut No. 92-320068-05. Connect the two leads as shown in **Fig. 72.**
* Connect two leads to Metratester at right.
* Reading: 0.75 mA max.

21 Measures in cases of incorrect readings

Item I Inform owner of house/apartment.

Item II If current input deviates greatly from indicated reading, although there is no mechanical binding in the machine, motor is defective ahd has to be exchanged or repaired.

Item III If insulation resistance is lower than indicated reading, defective parts must be located by methodical testing and replaced or repaired.

Item IV Also locate defective parts with excess leakage current by methodical testing and replace or repair.

Item V Return motor to factory.

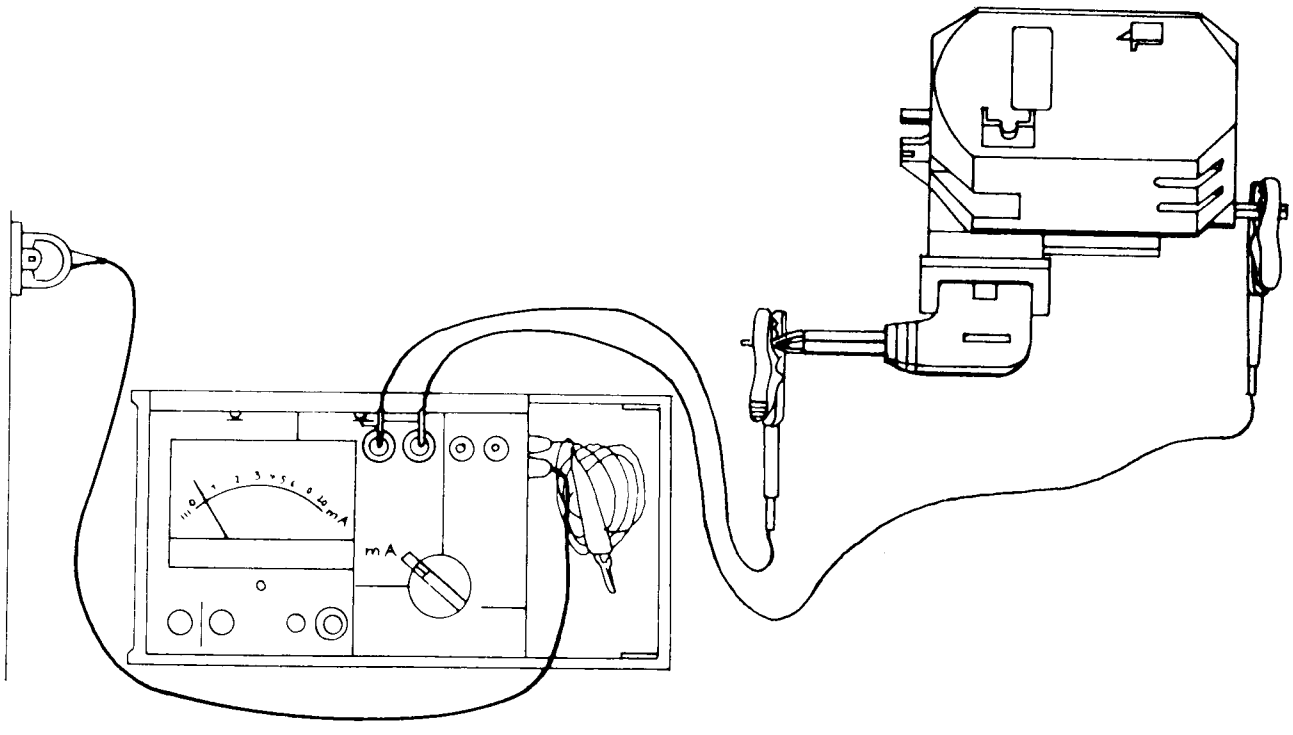


Fig. 72