

3822-1/02 -1/04

Instruction manual

The following other manuals are required:

- Service manual
for thread trimmer -900/51
of the 480 Series
- Motor control instructions
Quick digital Synchro
PFAFF P42 S
(for the PFAFF 3822 -1/04 it is important to
observe page 54 of these instructions)

Purpose of Application

PFAFF 3822-1/02

Integrated sewing unit for making run-stitched edges

PFAFF 3822-1/04

Integrated sewing unit for making feathered run-stitched edges

Notes on safety

- The machine must not be used without full knowledge of its instruction manual and must only be operated by appropriately trained personnel.
- The machine must only be used for the purpose intended.
- When part sets are changed (e.g. needle, presser foot, needle plate, feed dog and bobbin), when the workplace is left unattended or when service work is being carried out, the machine must be isolated from the mains by operating the main switch or pulling out the mains plug. On mechanically operated clutch motors without inhibitor, wait until the motor comes to a standstill.
- General maintenance work must only be carried out by appropriately trained persons.
- Repairs, conversion and special maintenance work must only be carried out by technicians or specially trained persons.
- When any maintenance- or repair work is carried out on pneumatic equipment the machine must be disconnected from the compressed-air supply. Exceptions to this are only allowed for adjustments and function checks made by correspondingly trained technicians.
- Work on the electrical system is only to be carried out by electricians or correspondingly trained persons.
- Work on any live parts or equipment is not allowed, with exception of the deviations set forth in DIN VDE 0105.
- Conversions or modifications to the machine must only be made on adherence to all applicable safety regulations.



This symbol denotes safety precautions that must be adhered to.

Also observe the generally applicable safety regulations!



This symbol draws attention to danger of injury by cutting or crushing due to incorrect operation of the machine.

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only on 3822-1/02

only on 3822-1/04

1 Specifications of the PFAFF 3822-1/02
PFAFF 3822-1/04

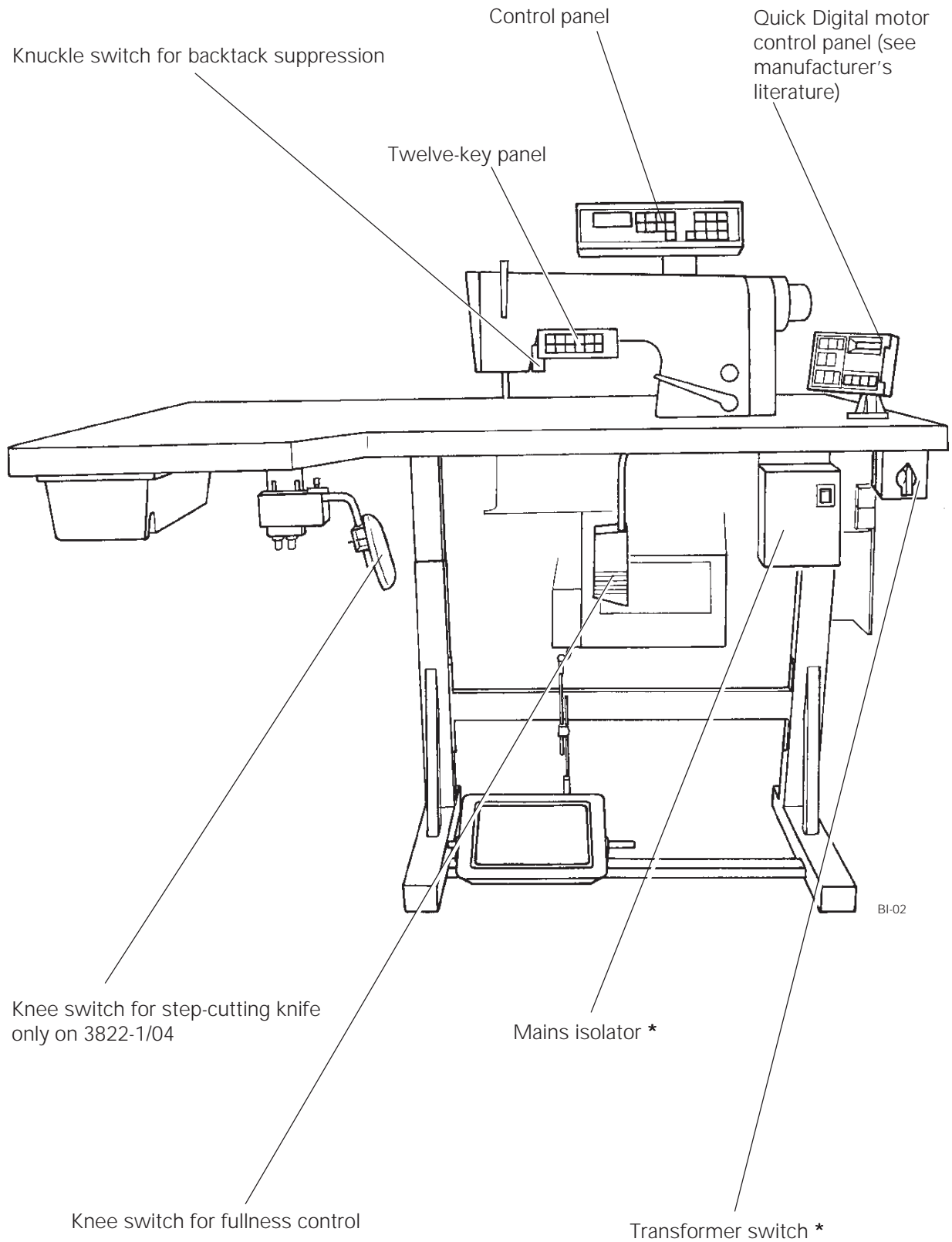
Sewing machine head :	487-706/81-731/12-900/51-911/15-910/03-917/.. BSx3,5x6,5
Stitch type :	301
Maximum sewing speed :	3000 s.p.m
Maximum stitch length :	3,5 mm on PFAFF 3822-1/02 2,5 mm on PFAFF 3822-1/04
Needle system :	134 KK
Needle size :	80
Trimming margin :	5,0 mm on PFAFF 3822-1/02 6,5 x 3,5 mm on PFAFF 3822-1/04
Fabric clearance :	7 mm
Sewing motor :	Quick digital QE6040 P42S Pb4
Power input :	1,2 kW
Connection voltage :	E 230 Volt, 50 / 60 Hz
Working pressure :	6 bar
Air consumption :	~40 standard litres
Workplace-related noise :	PFAFF 3822-1/02 at sewing speed $n=3400 \text{ min}^{-1}$: $L_{PA} \leq 78 \text{ dB(A)}$ PFAFF 3822-1/04 at sewing speed $n=2400 \text{ min}^{-1}$: $L_{PA} \leq 75 \text{ dB(A)}$ Noise measurement according to DIN 45635-48-A-1.
Dimensions of unit :	Length : 1365 mm Breadth : 950 mm Height : 1700 mm (with reel stand)
Weight :	Net : 140 kg

Rights to modifications reserved

Status: 03.93

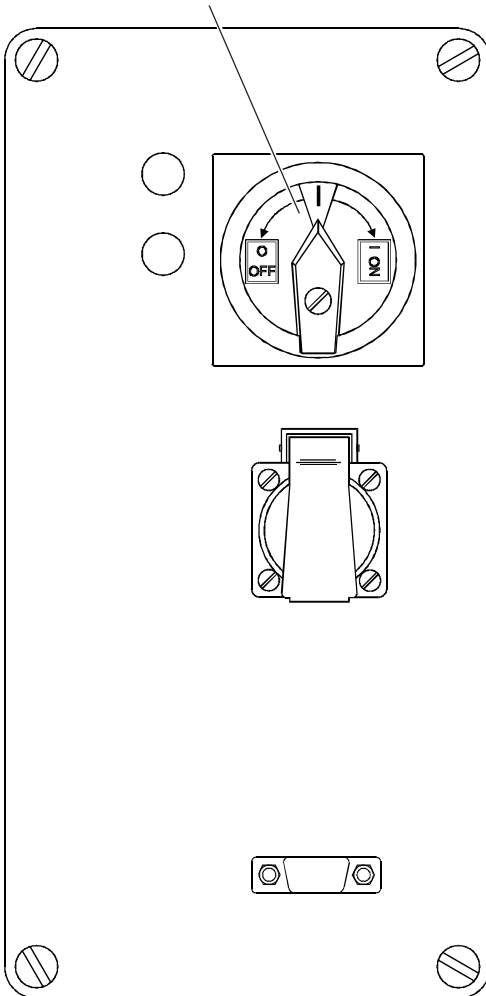
2 Controls and indicators

General view



2.1 Mains isolator

For switching the entire sewing workplace on and off.



2.2 Mains isolator *

For switching the entire sewing workplace on and off.

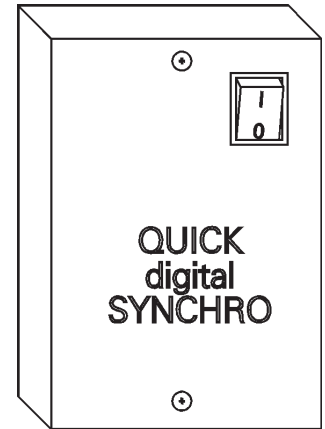


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2.3 Transformer switch *

Only on machines with a primary transformer for mains voltages other than 230 volts.

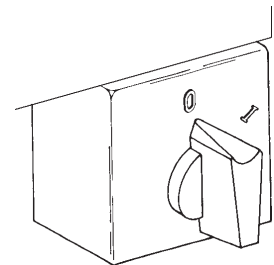


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2.4 Knee switch for step-cutting knife (only on 2822-1/04)

Knee switch for enabling and disabling:

- hook knife
- air pulse for ply separation

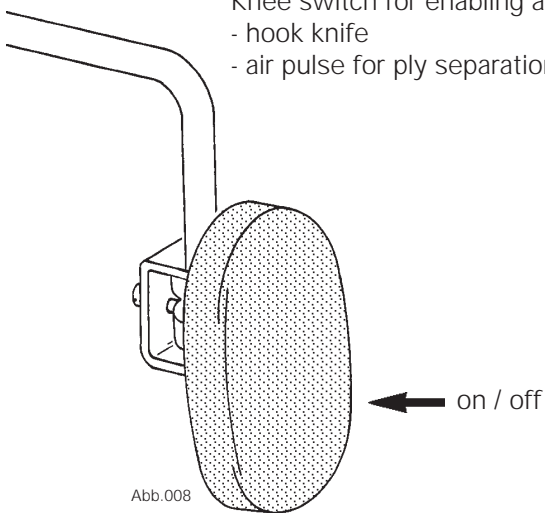


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2.5 Knee switch for fullness

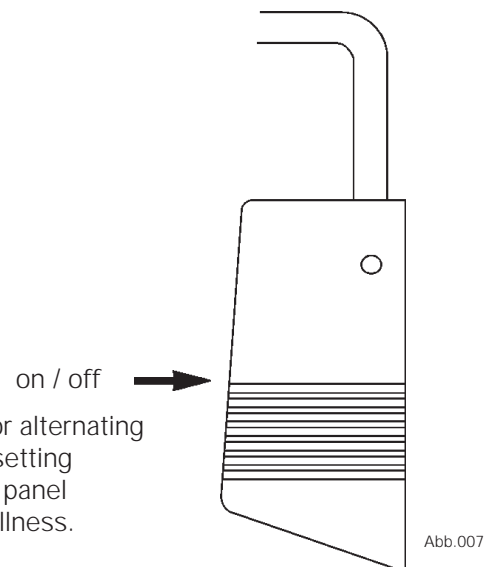
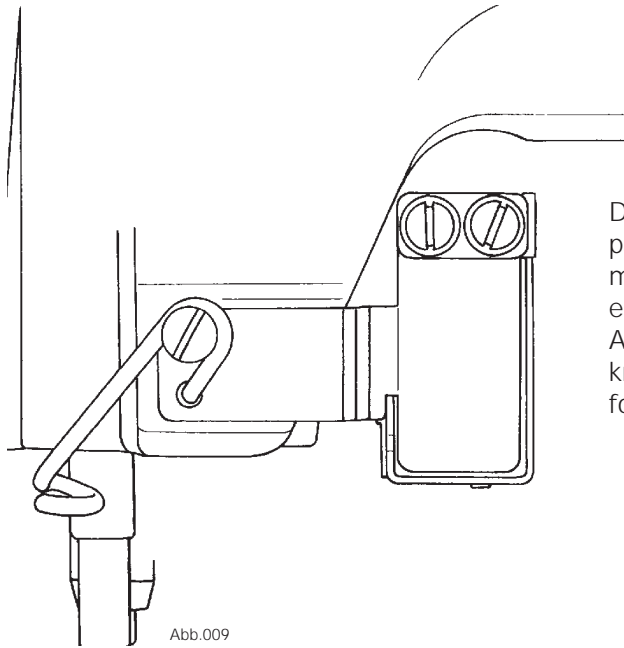


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The knee switch is used for alternating between the last fullness setting entered on the twelve-key panel and sewing without any fullness.

* Earlier version, now combined in version 2.1

2.6 Knuckle switch for backtack suppression



Depending on the setting on the motor control panel (see motor manufacturer's literature) the machine sews a backtack at the beginning and end of seam.

A backtack is inhibited by briefly pressing this knuckle switch before the pedal is pressed forwards or backwards.

2.7 Pedal functions

0 = Neutral pedal position

+ = Pedal forwards

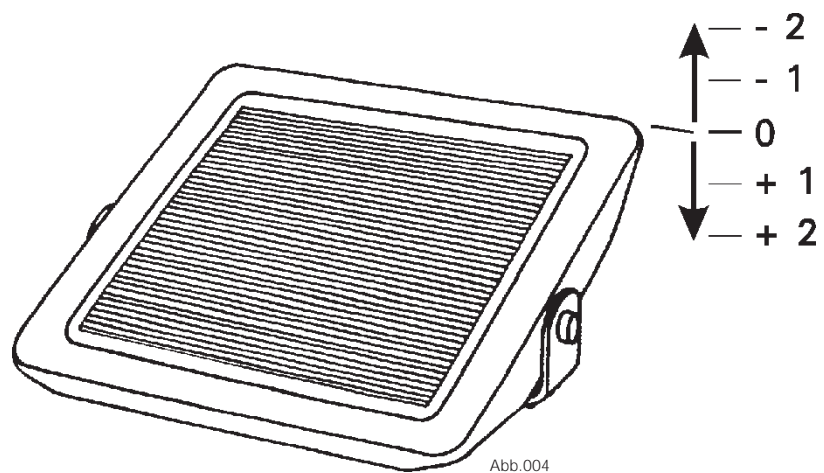
+1 = Presser foot down

+2 = Sewing (and when edge trimmer is engaged: suction and sewing)

- = Pedal backwards

-1 = Backtack, and raise presser foot

-2 = Thread trim



2.8 Twelve-key panel

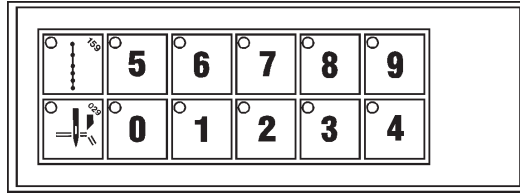


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Condensed stitches on / off *




Edge trim on / off *



to



Input fullness setting * (requirement: key  on control panel must be enabled)

2.9 Control panel

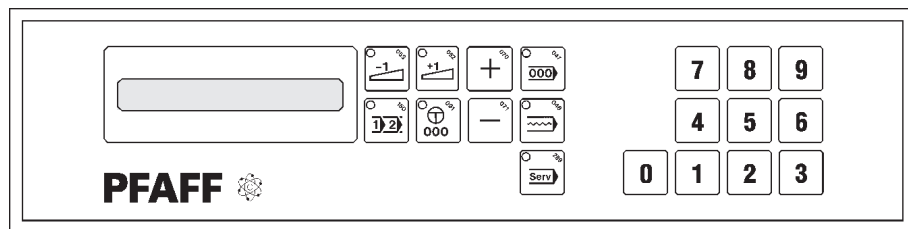


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Reduce programmed fullness setting by the amount indicated in offset*



Increase programmed fullness setting by the amount indicated in offset*



Program fullness and stitch counter (increase setting)



Program fullness and stitch counter (decrease setting)



Function, "program stitch counter" *



Change from mode 1 to mode 2 (in mode 1, LED is on)



Stitch counter on / off *



Function, "program fullness" *





- Cancel programmed fullness and replace with standard settings
- Input offset
- Input language



to



Input stitch counter setting * (requirement: key  enabled)

Input fullness setting * (requirement: key  enabled)

* Function enabled when LED is on

3 Examination before commissioning

After the machine is unpacked and before commissioning it must be examined for damage in transit. In cases of damage, be sure to inform both the forwarding agent and the PFAFF agency responsible.

4 Setting up the machine

Set up the machine horizontally at its intended location



On newly commissioned machines or on machines which have not been used for a long time be sure to check the hook oil supply (see chapter 8.4).

5 Compressed air and electrical connection

5.1 Compressed air

Connect compressed-air hose (internal dia. of 6 mm) to coupling (Fig. 1).

Minimum supply pressure:	7 bar
Working pressure:	6 bar
Pressure adjustment:	regulating knob 2

5.2 Electrical

.1 Permissible operating power is indicated on spec. plate (Fig. 2).

Note: The operating voltage indicated on the specification plate refers to the control. It is not necessarily applicable to the entire system!

.2 Connection must only be made if mains and operating voltage coincide.

.3 The machine must only be connected to a suitable earthed socket.

6 Switching the machine on

.1 Open compressed air supply.

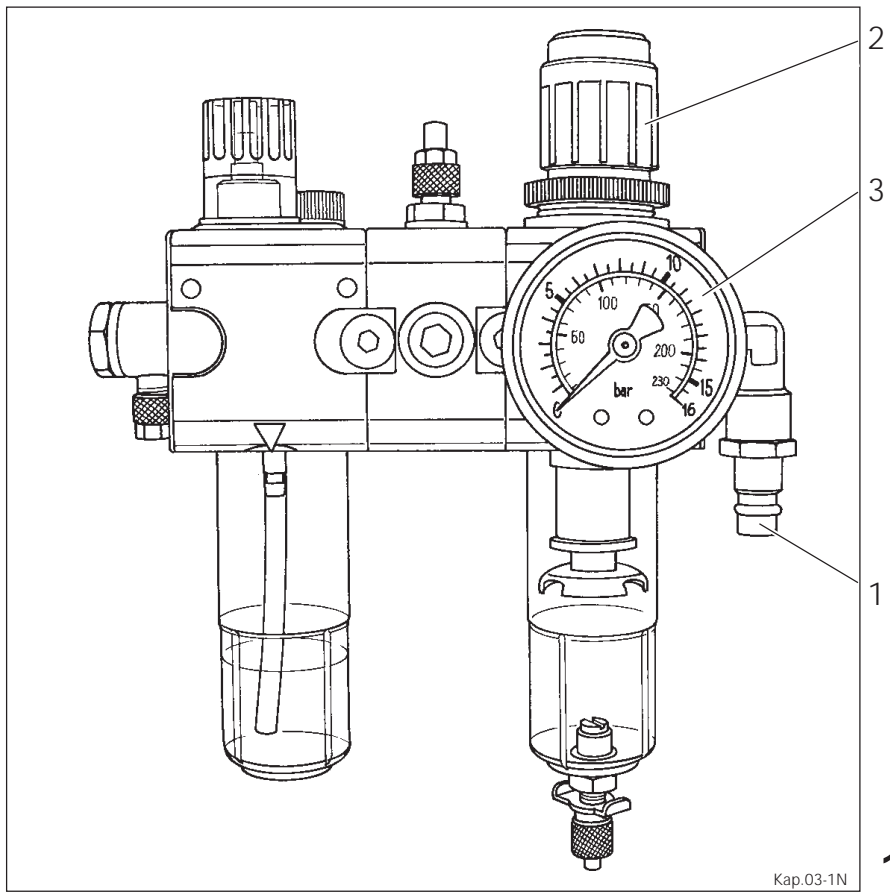
.2 Check working pressure: 6 bar (gauge 3, Fig. 1)

.3 Re-adjust if necessary (regulating knob 2).

.4 Switch on machine (rotary switch 4 to "ON", Fig. 3)

7 Switching the machine off

Set rotary switch 4 at "OFF", Fig. 3)

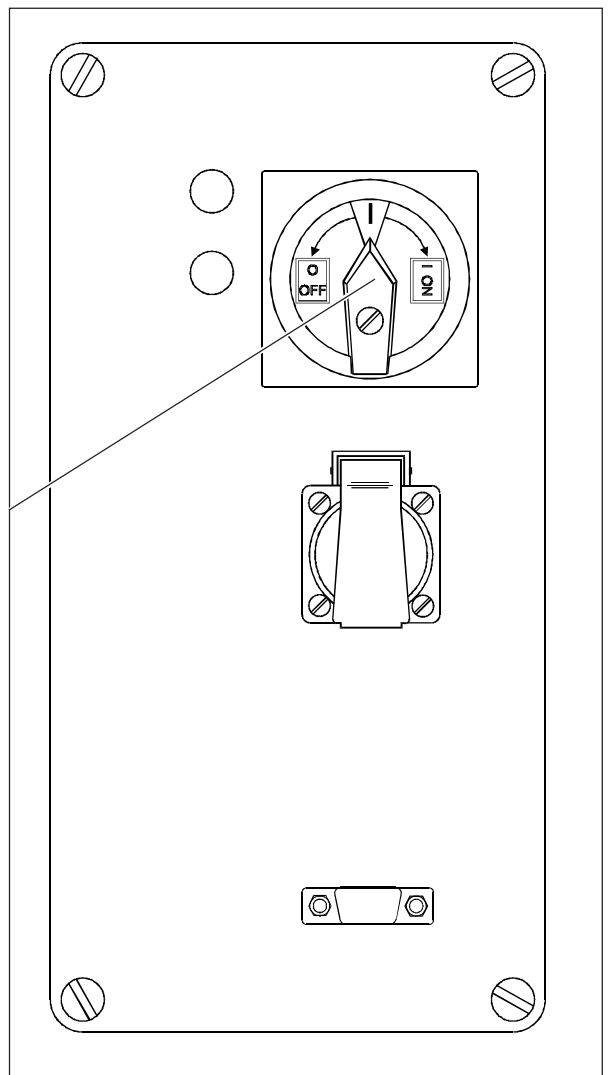


1

PFAFF	Type	3822 -1/..	
	Ser.No.		
Power		50/60Hz	50VA
Part. No.			

Kap03-2N

2



3

8 Checks

8.1 Air filter/lubricator (Fig. 1)

Min. and max. oil levels, see Fig. 1.

To top up oil see chapter 61.2.



Suction tube 1 must always be immersed in oil.

8.2 Sewing machine oil level

If necessary, top up oil through hole 2 (Fig. 2):

Use Pfaff sewing machine oil, part No. 280-1-120144 or an oil with a medium viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³.

8.3 Rotating direction

Requirement: The balance wheel must rotate as shown by the arrow (Fig. 3)

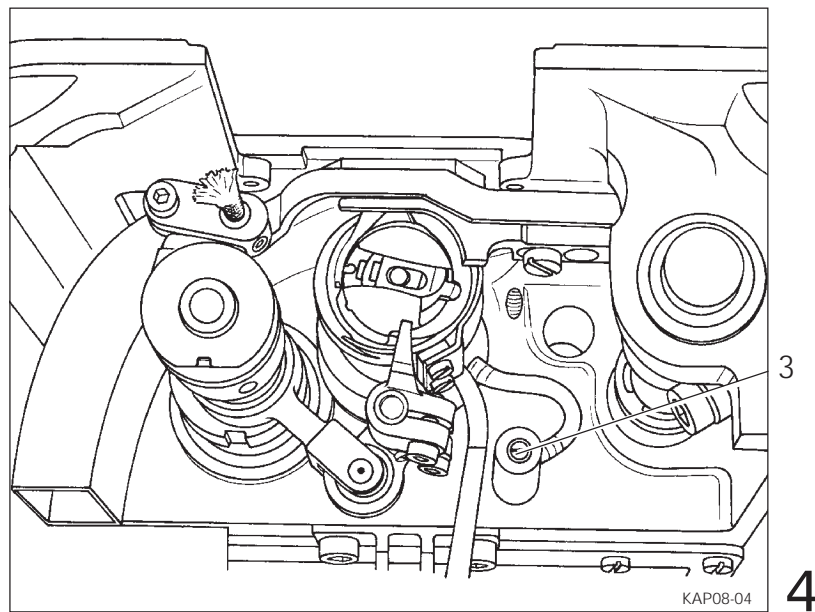
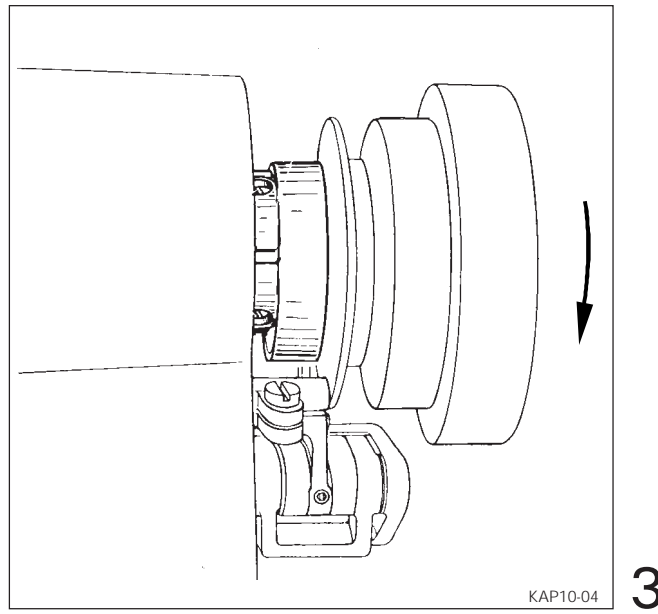
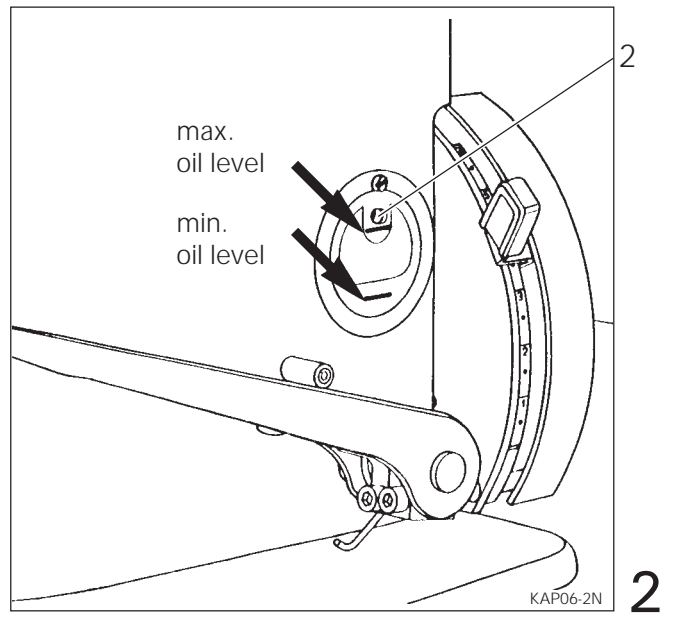
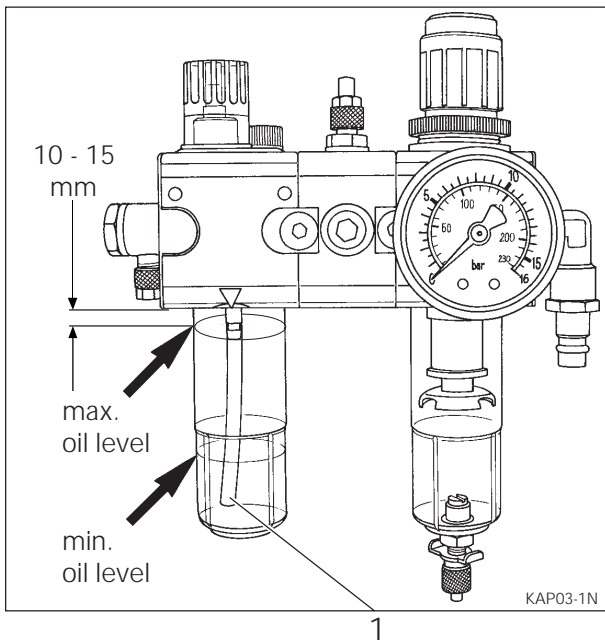
- .1 Switch on machine.
- .2 Raise presser foot using presser bar lifter.
- .3 Press pedal lightly forwards.
- .4 If rotating direction is incorrect, see motor manufacturer's literature, parameter 800.

8.4 Hook lubrication:

Requirement: When the machine has run at full speed for about ten seconds, a fine trace of oil should appear on a piece of paper held at the side of the hook.

Basic setting: Turn regulating screw 3 (Fig. 4) fully in, then unscrew it again by about two or three turns.

- .1 Switch on the machine.
- .2 Press pedal fully forward.
- .3 Allow machine to run for one minute at full speed.
- .4 Hold a paper strip at side of hook and run machine for about 10 seconds.
- .5 Oil regulation on screw 3.



9 Inserting the needle

Needle system 134 KK



Switch off machine!

10 Winding the bobbin thread

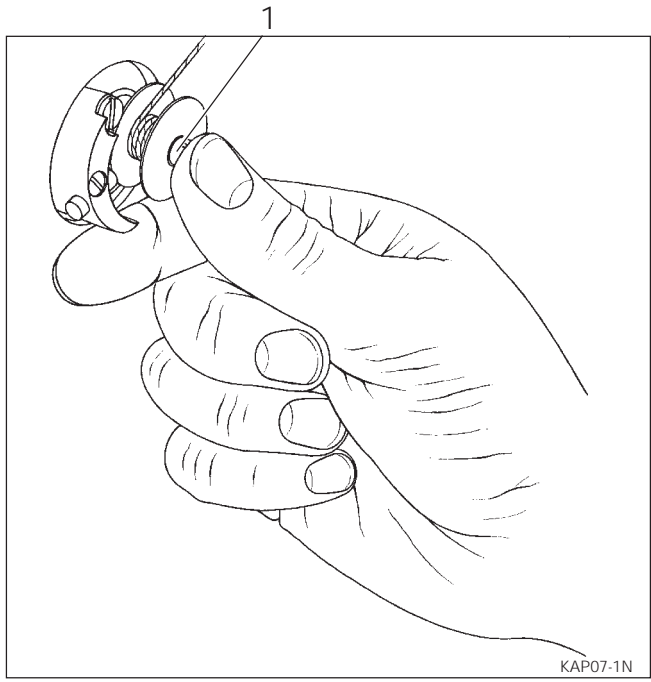
- .1 Place a bobbin on winder spindle 1 (Fig. 1).
- .2 Press winder spindle 1 inwards
- Winder is engaged
- .3 Thread up as shown in Fig. 2 and wind thread a few turns around bobbin.
- .4 Bobbin is filled during sewing.
- .5 To regulate the amount of thread: pin 2 (screw 3)

Note: If bobbin is wound unevenly, position thread guide 4 according (nut 5) and regulate winding tension (chapter 11).

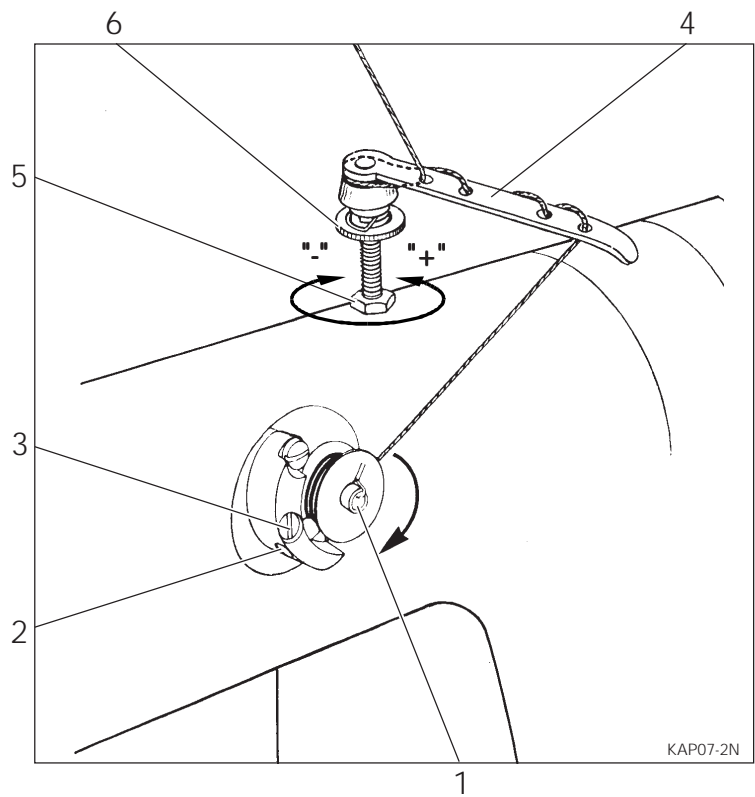
11 Regulating the winding thread tension

Knurled washer 6 (Fig. 2)

- + = increase
- = decrease




1



2

12 Removing the bobbin case

- .1  Switch off machine!
- .2 Set take-up lever at t.d.c. position (balance wheel)
- .3 Open latch 1 (Fig. 1) and take out bobbin case

13 Threading the bobbin thread

- .1 Insert bobbin in bobbin case so that it turns as shown by arrow when thread is pulled (Fig. 2)
- .2 Hold bobbin, pull thread through slot 2 and under tension spring 3.

14 Regulating the bobbin thread tension

Screw 4
+ = increase
- = decrease

15 Inserting the bobbin case

- .1 Open latch 1 (Fig. 1).
- .2 Insert bobbin case in hook and release latch 1 (must audibly snap in).
- .3 Press bobbin lightly case to make sure it has snapped in properly.

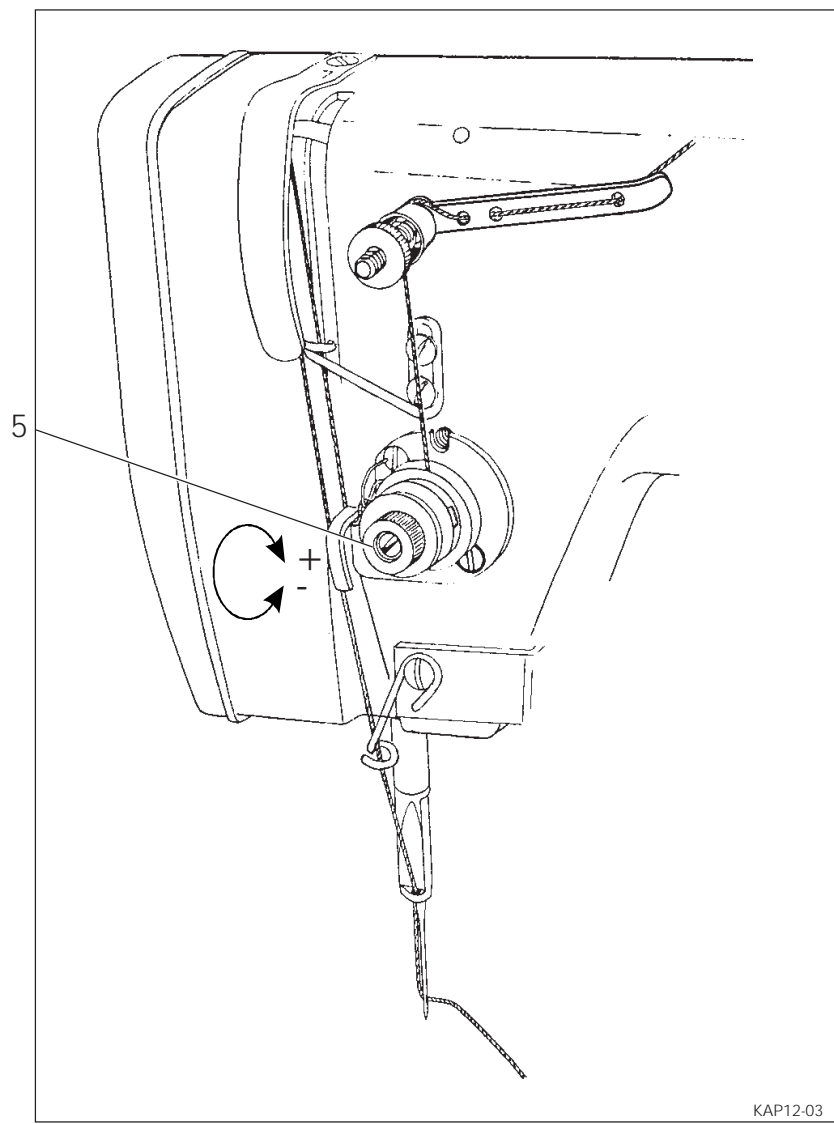
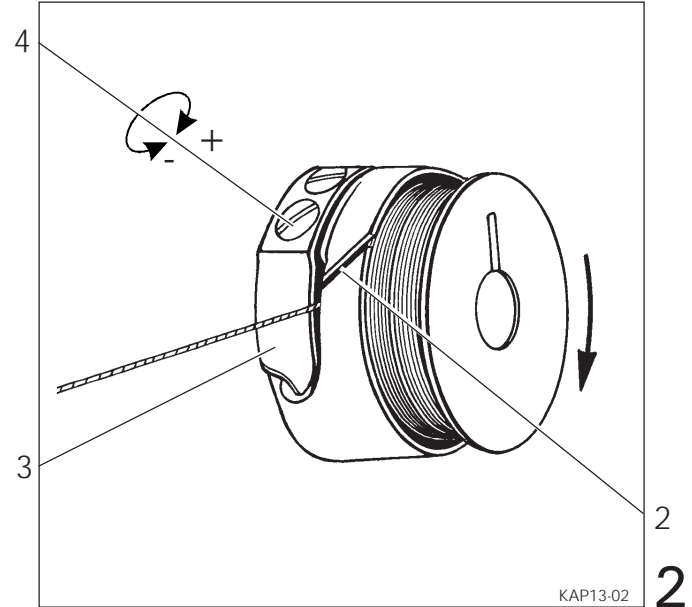
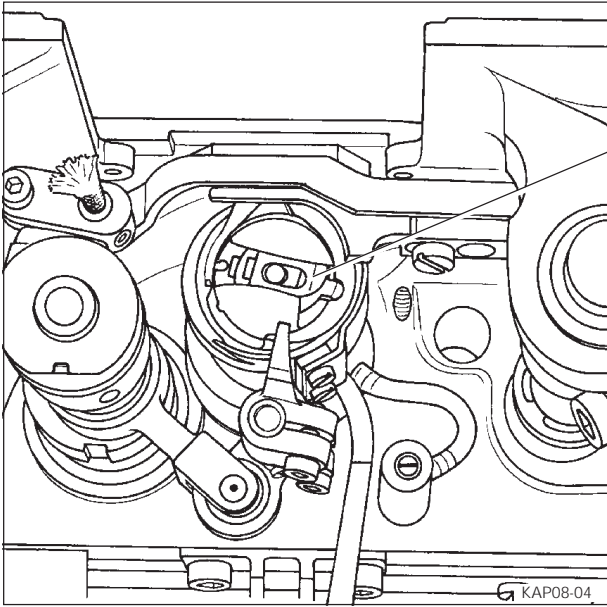
16 Threading the needle thread



Switch off machine!



17 Adjusting the needle thread tension

Knurled nut 5 (Fig. 3)
+ = increase
- = decrease





18 Operating modes

18.1 Mode 1 (sewing without stitch count)

Key  on (LED on), key  on (LED on).

The knee switch (fig. 2) is used for alternating between the last fullness setting entered on the twelve-key panel and sewing without any fullness.




18.2 Mode 2 (sewing with stitch count)

Key  off (LED off), key  on (LED on).




- Sewing without fullness until knee switch (Fig. 2) is pressed, then
- sewing with fullness (for the number of fullness stitches set on counter 1),
- sewing without fullness until thread trim, or until the knee switch is pressed again;
- sewing with fullness (for the number of fullness stitches set on counter 1).

19 Stitch counter 1

19.1 Programming the stitch counter

- .1 Key  on (LED on).
- .2 Input setting: on keys  to 



 or

 on keys  and 
- .3 Key  off (LED off, setting on stitch counter 1 is entered).

19.2 Stitch counter on / off

Key 

20 Selecting a language

- .1 Switch off machine!
- .2 Select the required language on number keys  to 
0 = German
1 = English
2 = French
3 = Spanish
- .3 **Hold the number key** and switch the machine on again:
- The language is selected.

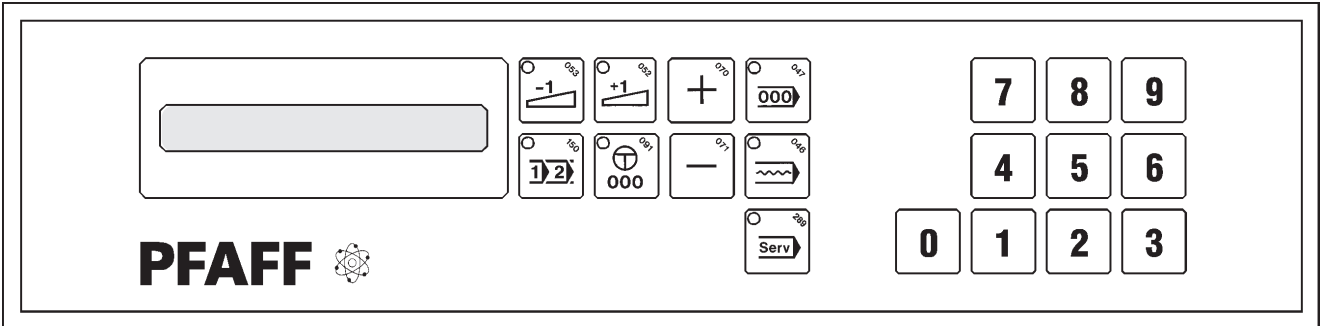


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1

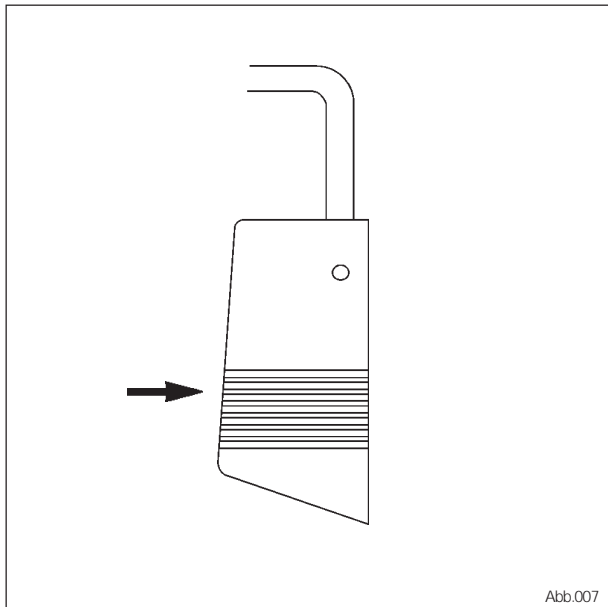


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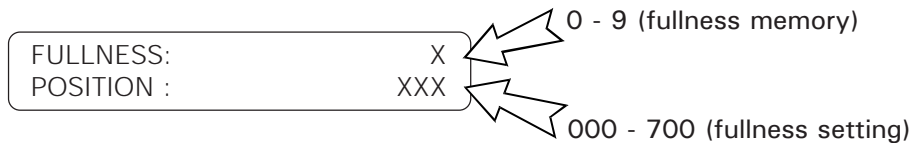
2




21 Fullness

21.1 Fullness input (see also chapter 60.1)

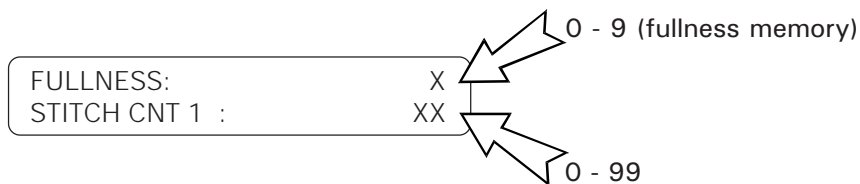
- .1 Key  on (LED on)

Display:



- .2 Select fullness (fullness memory): Keys **0** to **9**
- .3 Input position (fullness setting): Key  (increase fullness setting)
Key  (decrease fullness setting)
- .4 Key  off (LED off)

Display:



Fullness is input.

21.2 Cancelling all fullness settings (positions)

When the fullness settings input according to chapter 21.1 are cancelled, the machine uses the standard position settings input at the works (see table 1).

Fullness	Position
9	800
8	700
7	600
6	500
5	400
4	300
3	200
2	100
1	0
0	350

Tab.1

Only on PFAFF 3822-1/04


Very important:

The standard position settings input at the works must be changed according to table 2.



Tab.2

Fullness	Position
9	700
8	612
7	525
6	437
5	350
4	262
3	175
2	087
1	0
0	305

- .1 Switch off the machine !
- .2 Press and hold key  and switch machine on.

Display:

MW-TAB. LÖSCHEN ?
1 = JA 0= NEIN

Cancel fullness tab ?
1=Yes 0=No

- .3 Press key **1** (= yes).

- Any self input position settings are cancelled; the machine now works with standard settings according to table 1.
(On the PFAFF 3822-1/04 be sure to change standard settings according to table 2 !).

22 Offset input

The input fullness setting is increased or decreased by the amount input in the offset.

.1 Switch off the machine.

.2 Press and hold key  and switch machine on.

Display:


MW-TAB. LÖSCHEN ?
1 = JA 0 = NEIN

Cancel fullness tab ?
1=Yes 0=No

.3 Press key  (= no).



Display:

OFFSET: XX


Note: When key  is pressed, the input fullness settings are cancelled and the machine takes over the standard settings input at the works (chapter 21.2).

.4 Input the offset amount using

key  or  or


 to  (settings from 01 to 99 possible)

.5 Press key  (increase fullness by offset) or  (decrease fullness by offset).

.6 Press key  :

Display:

0 = DT. 1 = EN.
2 = FR. 3 = SP.

.7 If required, input language (chapter 20), then press key .

Note: If the required language is already input, press key  immediately.

Display:

FULLNESS : X ← 0 - 9 (fullness memory)
STITCH CNT 1 : XX ← 0 - 99

- Offset is input.

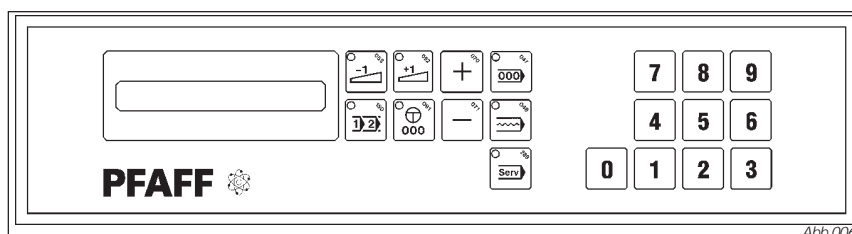


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23 Checking and adjusting aid

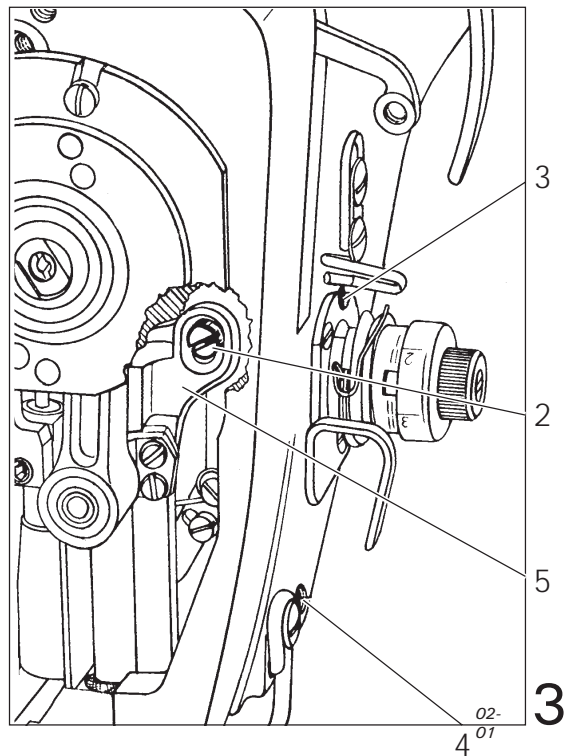
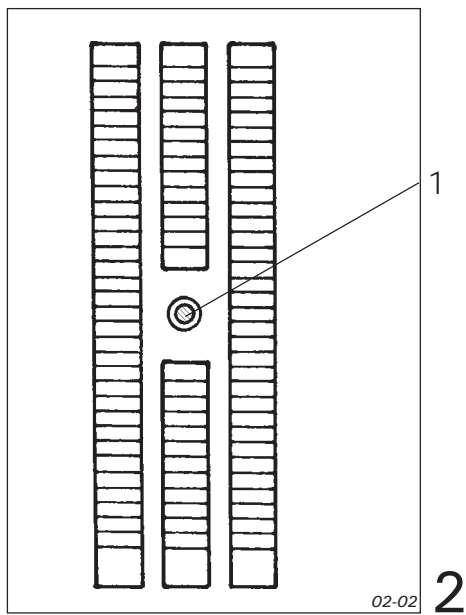
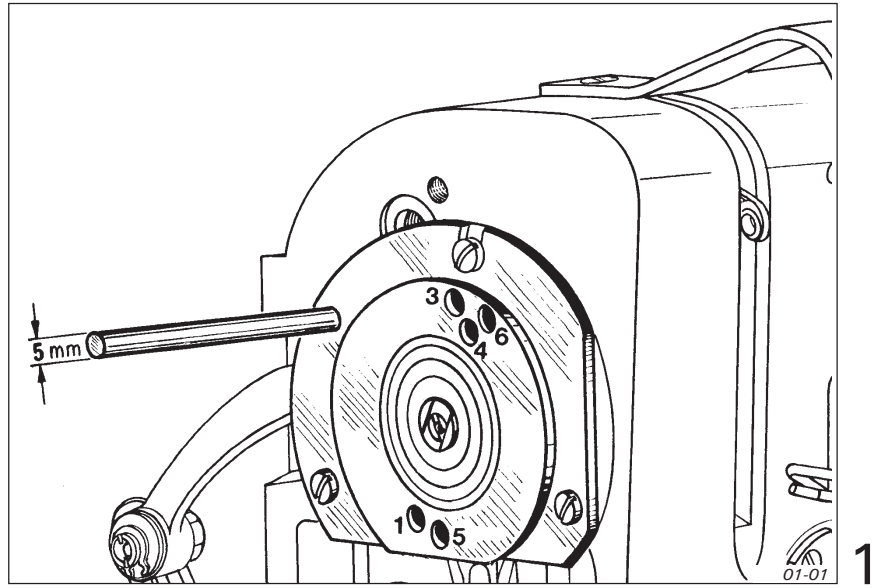
Requirement: The machine can be blocked at adjustment holes 1 to 6, in order to allow accurate fixing of the required needle bar positions.

- .1 Turn balance wheel until needle bar is roughly at required position.
- .2 Insert (5 mm) adjustment pin in hole for required adjustment and press against pin.
- .3 Turn balance wheel back and forth a little until pin enters the hole in the crank behind the bearing plate and blocks the machine.

24 Needle to needle hole

Requirement: A perfectly straight needle must enter exactly in the centre of needle hole (Fig. 2, for needle system see "Specifications").

- .1 Loosen screws 2, 3 and 4 (Fig. 3).
- .2 Adjust needle bar frame 5 accordingly.
- .3 Firmly tighten screw 2.
- .4 Using screw 2, pull the guide pin behind it against the eye of needle bar frame 5.
- .5 Tighten screw 3, then screw 2.
- .6 Loosen screw 3, turn the balance wheel a few times (to remove any binding), then tighten screw 3 again.



25 Neutral position of bottom feed dog

Requirement: At stitch length "0" the bottom feed dog must not make any feeding movement.

- .1 Set stitch length at "0" (lever 1, Fig. 1)
- .2 Set mark of eccentric bush 2 at 45° position (screw 3).
- .3 Adjust feed regulator crank 4 (Fig. 3, screw 5).

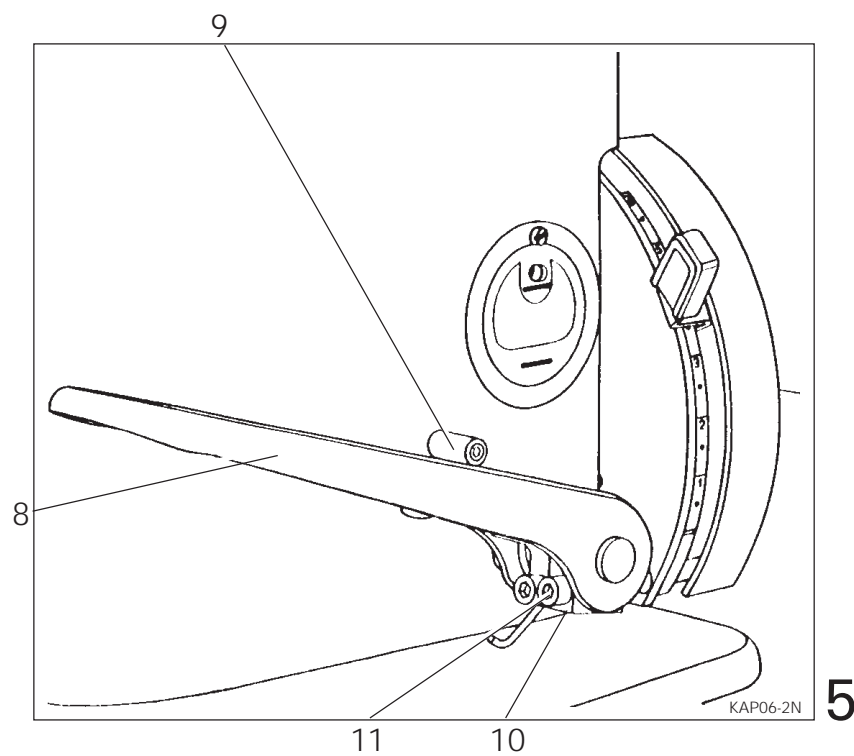
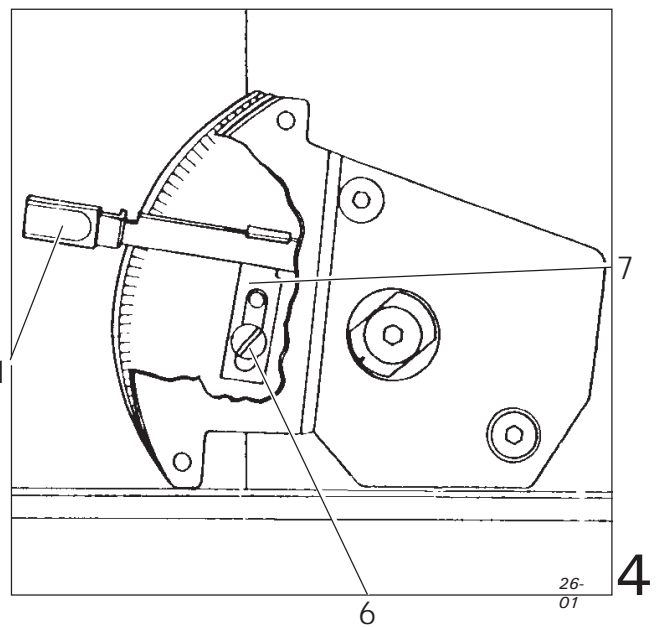
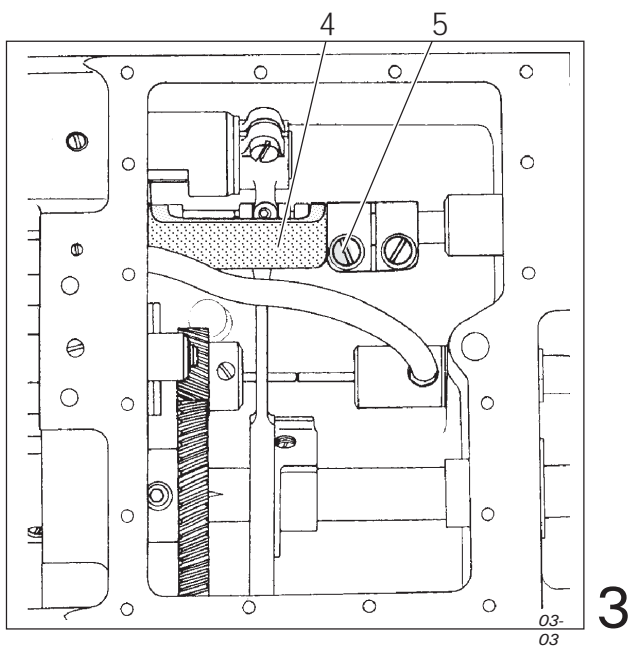
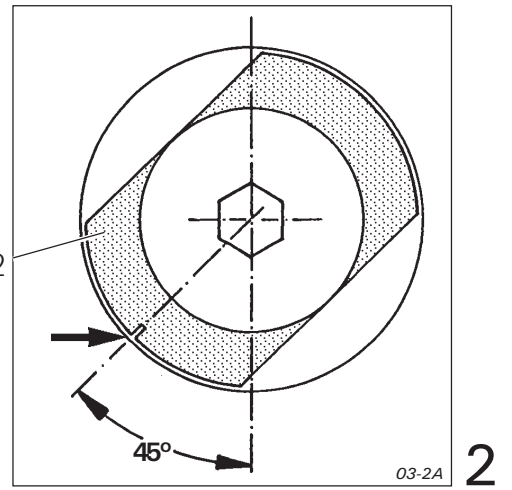
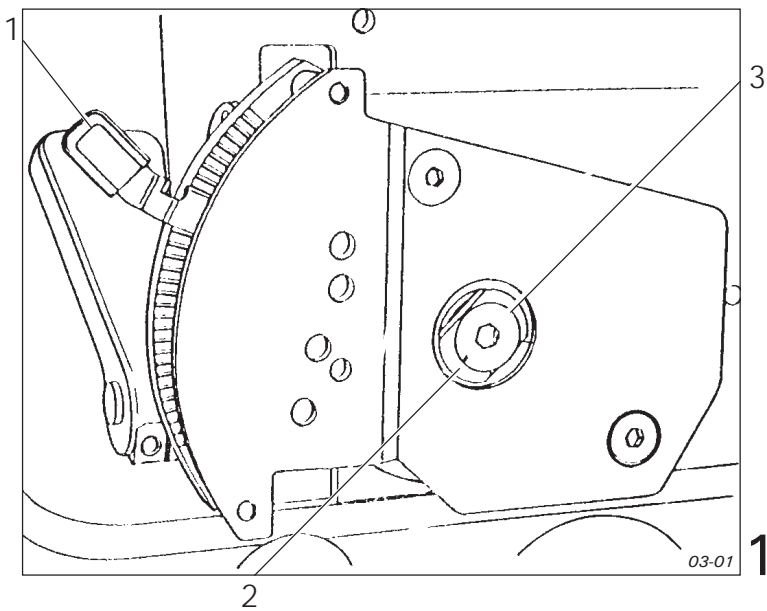
26 Stitch length limitation

- .1 Loosen and take out screw 6 (Fig. 4), accessible through fitting hole, and insert screw at different setting.
- .2 Set maximum stitch length of 3 mm (lever 1)
- .3 Place limitation stop 7 from top onto adjusting lever 1 and tighten it (screw 6).

27 Bottom feed actuating lever

Requirement: When the longest stitch length is set, reverse-feed lever 8 (Fig. 5) must have a slight play (0.3 to 0.5 mm) when operated.

- .1 Set longest stitch length (3 mm).
- .2 Press reverse-feed lever 8 onto stop 9.
- .3 Press actuating lever 10 lightly against reverse-feed lever 8 (screw 11).



28 Bottom feed dog stroke

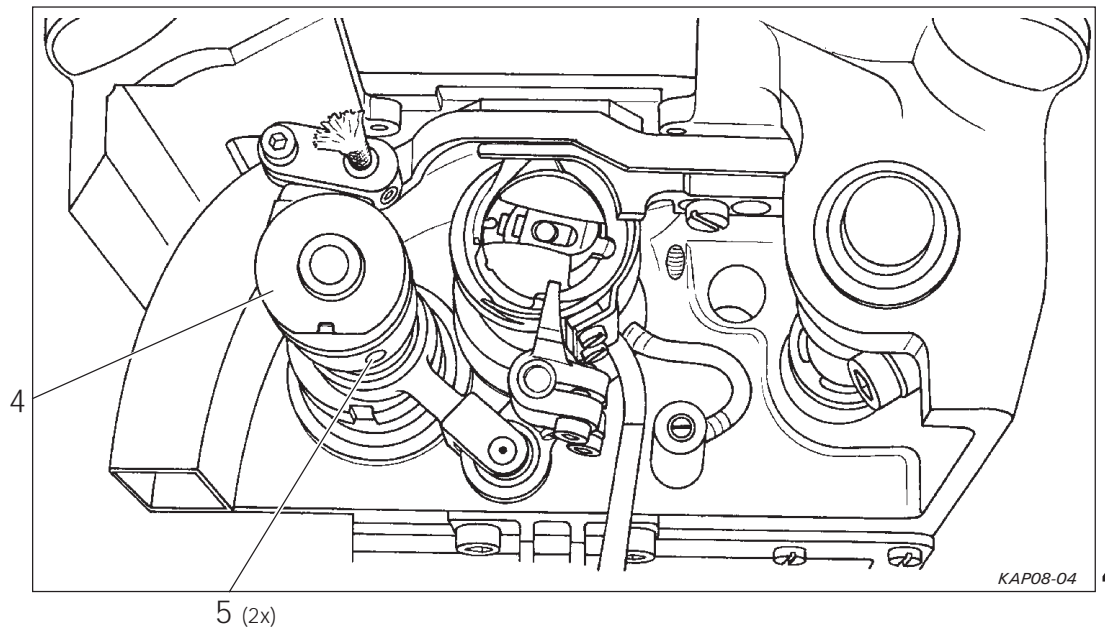
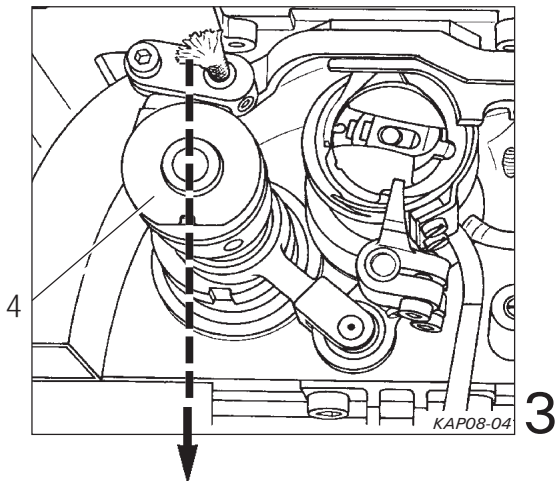
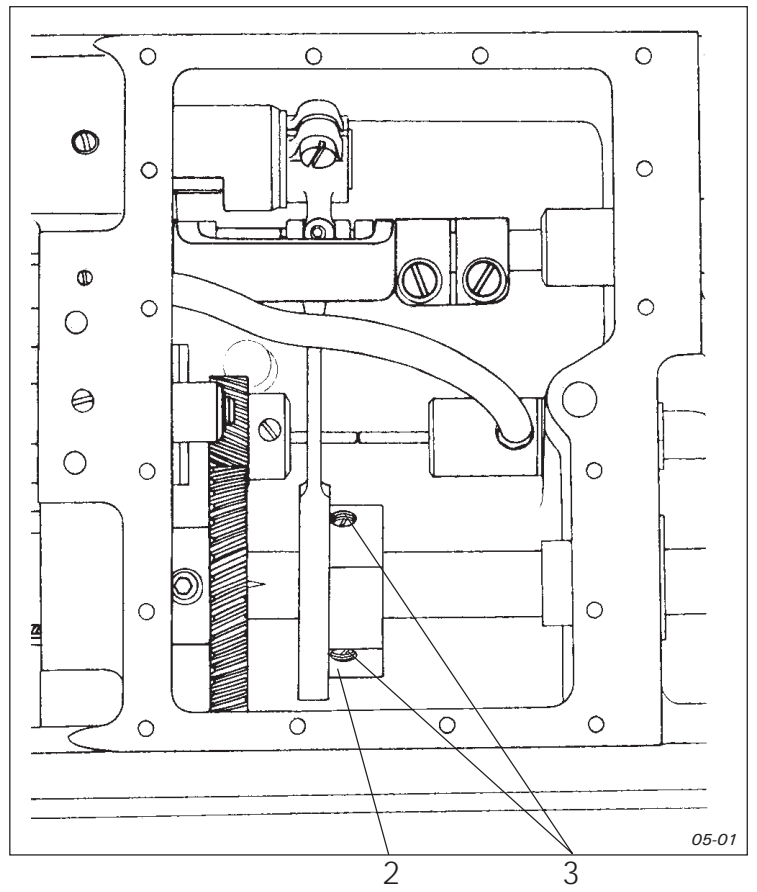
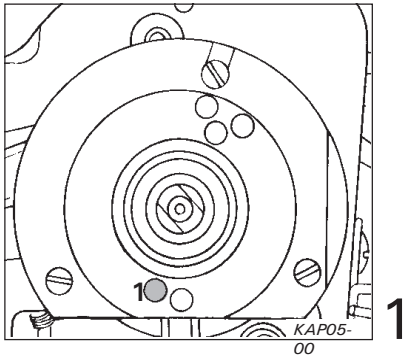
Requirement: When the longest stitch length is set and the needle bar is set 0.6 mm past top dead centre (adjustment hole "1", Fig. 1) the bottom feed dog must not make any driving motion when the reverse-feed lever is pressed.

Adjust eccentric 2 (screws 3).

29 Bottom feed lifting motion

Requirement: When the stitch length is set at "0" and the needle bar is set 0.6 mm past top dead centre (adjustment hole "1", Fig. 1) the bottom feed dog must be at the top of its stroke (the cutout in eccentric 4, Fig. 3, is facing vertically downwards).

Adjust eccentric 4 (screws 5).



30 Bottom feed dog height

Requirement: When the stitch length is set at "0" and the needle bar is set 0.6 mm past top dead centre (adjustment hole "1", Fig. 1) the bottom feed dog must be centred in the feed slots and touch the adjustment gauge throughout its length (Fig. 2).

Height adjustment, rear: screw 1 (Fig. 3)
front: eccentric sleeve 2 (screw 3).

31 Clearance between presser foot (floating foot) and needle plate

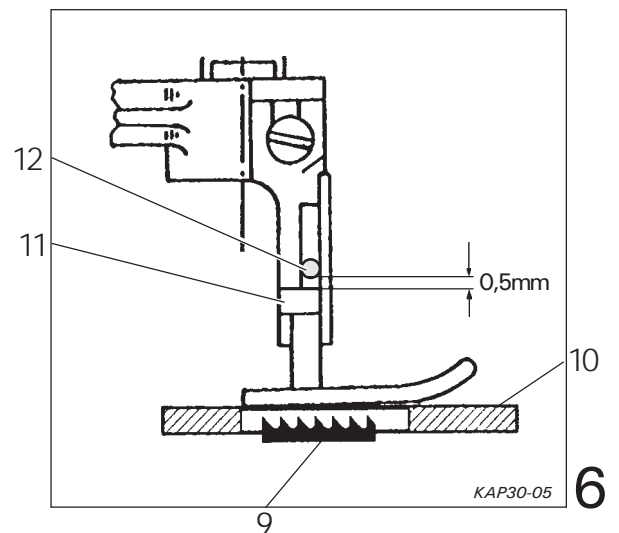
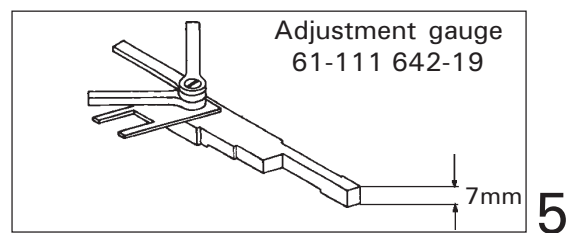
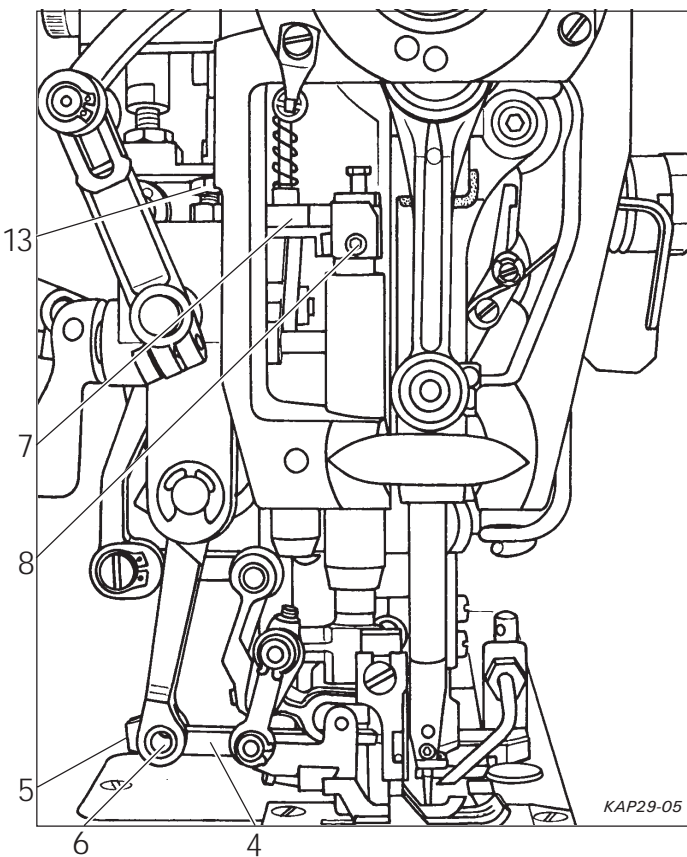
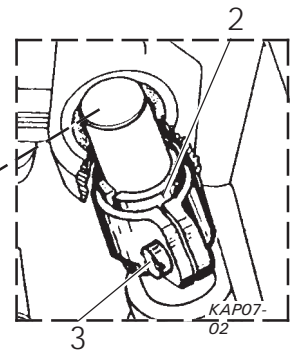
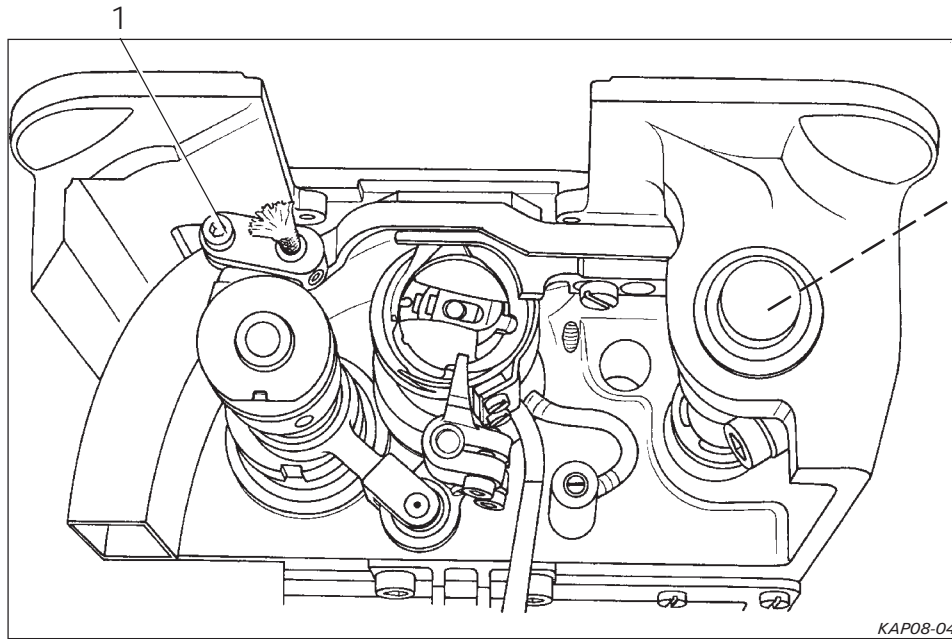
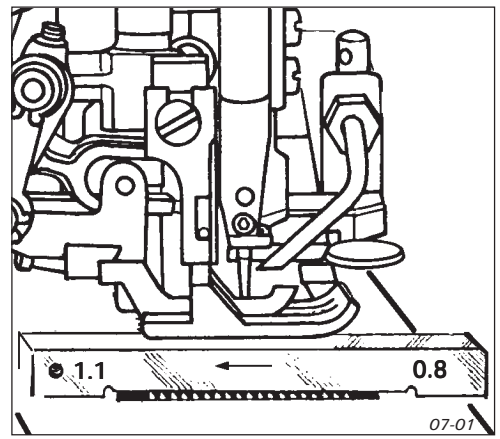
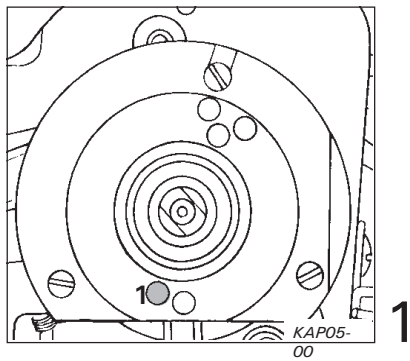
Requirement: Clearance with presser bar lifter raised = 7 mm

- .1 Disconnect link 4 (Fig. 4, screw 5, pin 6).
- .2 Push gauge (Fig. 5) between presser foot and needle plate (presser bar lifter raised).
- .3 Place presser foot onto gauge (presser bar lifter down).
- .4 Adjust lifting piece 7 (Fig. 6, screw 8).

32 Adjusting the floating foot

Requirement: When bottom feed dog 9 (Fig. 6) is beneath the top surface of needle plate 10 there must be a clearance of 0.5 mm between stop 11 and guide 12.

Adjustment: screw 13 (Fig. 4).



33 Top feed driving link

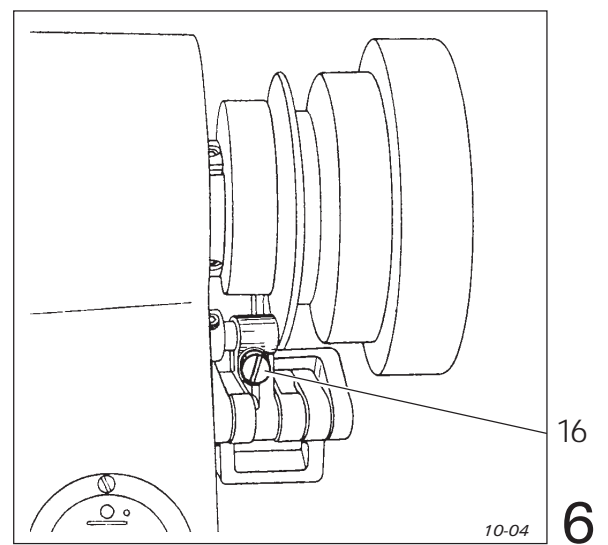
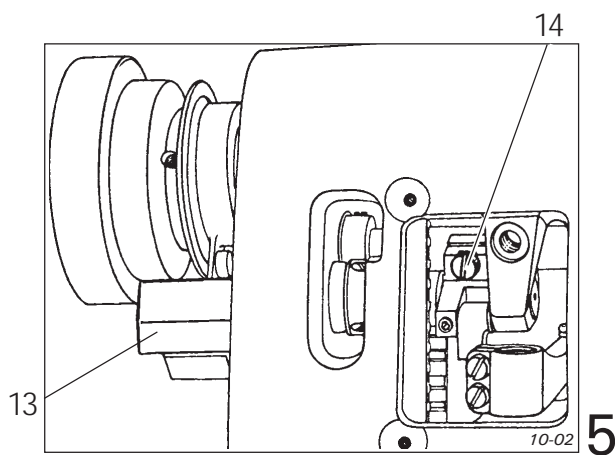
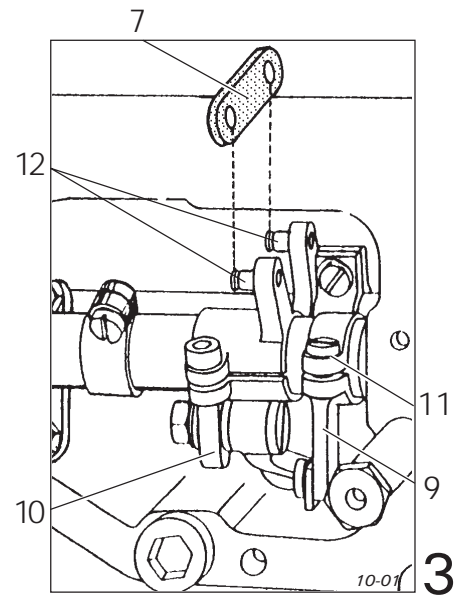
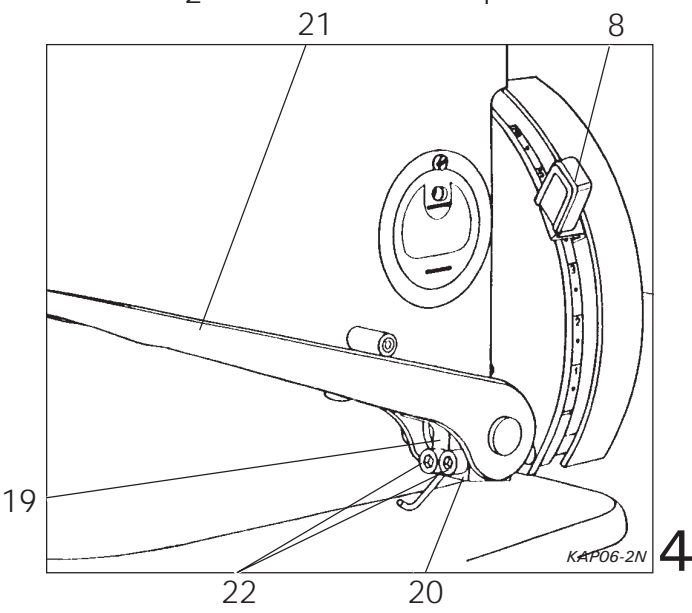
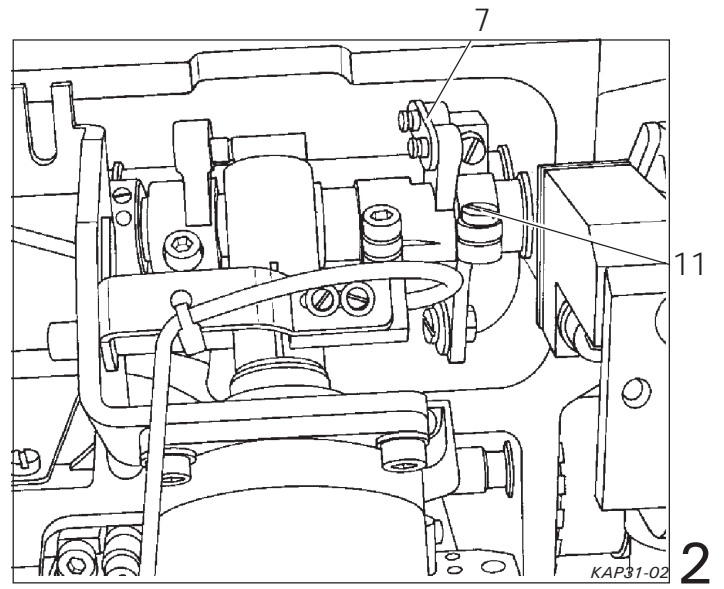
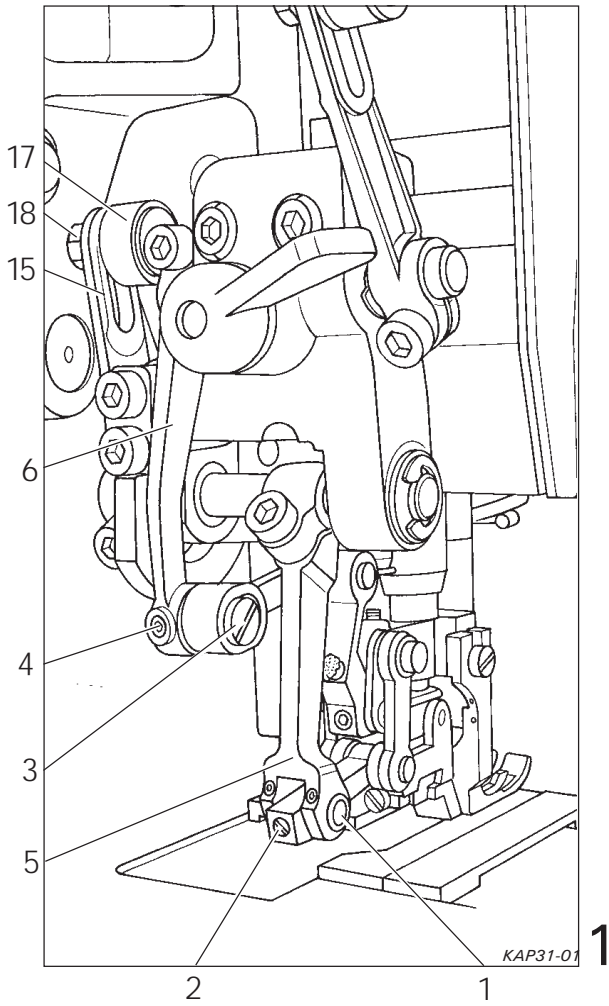
Requirement: All moving parts of the top feed must move freely but without play.

- .1 To check free movement, take out pin 1 (screw 2) and eccentric pin 3 (screw 4, Fig. 1).
- .2 It must be possible to push pins 1 and 3 in easily.
- .3 If necessary, bend drive levers 5 and 6 to shape accordingly.

34 Top feed neutral position

Requirement: When the stitch length is set at "0" (top and bottom feed) and adjustment link 7 (Fig. 2) is fitted, the top feed must not make any feeding movement.

- .1 Set feed regulator lever 8 (Fig. 4) at "0".
- .2 Set lever 9 (Fig. 3) parallel with lever 10 (screw 11).
- .3 Place adjusting link 7 onto pins 12 (Fig. 3).
- .4 Set crank 13 (screw 14) so that feeding foot does not make any feeding motion (Fig. 5).
- .5 Adjust lever 15 (Fig. 1) (screw 16, Fig. 6) so that top feed foot does not make any feeding motion when connecting rod 17 (nuts 18, Fig. 1) is moved up and down in the elongated hole.
- .6 Push connecting rod 17 (nut 18) fully **upwards**.
- .7 Take off adjusting link 7 (Fig. 2).
- .8 Press feed regulator lever 8 (Fig. 4) fully upwards.
- .9 Set actuating levers 19 and 20 (Fig. 4) at a clearance of 0.5 mm on reverse-feed lever 21 (screws 22).



- .10 Press connecting rod 17 (Fig. 1) fully downwards (nut 18).

35 Top feed driving motion

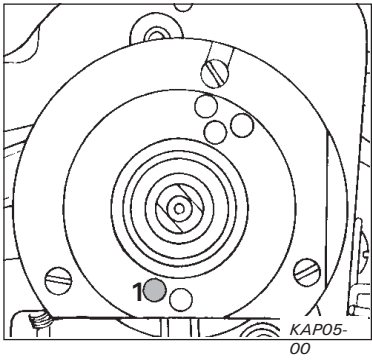
Requirement: When the longest stitch length is set and the needle bar is set 0.6 mm past dead centre (adjustment hole "1", Fig. 1) top feed foot 1 (Fig. 2) must not make any feeding movement when the feed regulator is operated.

- .1 Adjust eccentric 2 (Fig. 3, screws 3).
.2 The slot in eccentric 2 (see arrow) must face forwards.

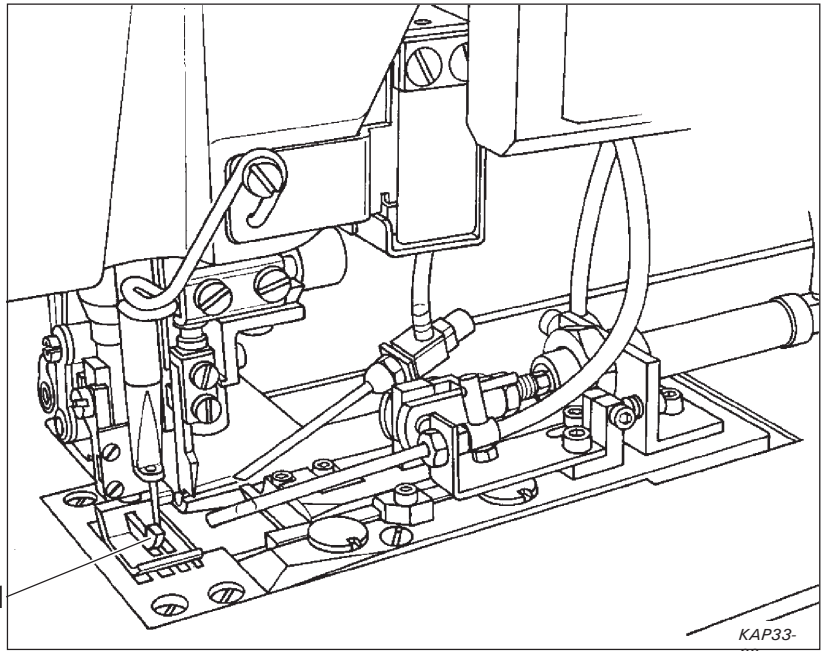
36 Top feed stroke

Requirement: The greatest clearance between top feed foot and needle plate when
- the stitch length is at "0", and
- the presser foot is resting on the needle plate (Fig. 4)
- (on -706/82 the top feed foot is behind the needle: is 1.3 mm

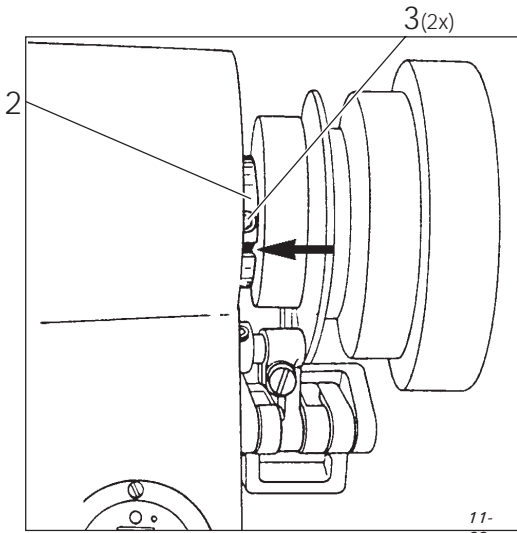
- .1 Set stitch length at "0" and lower presser foot onto needle plate.
.2 Increase presser foot pressure (knurled screw 4, Fig. 5).
.3 Basic setting of pin 5: eccentric side facing needle bar (screw 6).
.4 Basic setting of eccentric pin 7 (Fig. 6): eccentric side facing downwards (screw 8).
.5 Adjust clearance by shifting lever 9 (screw 10).
.6 Fine adjustment on eccentric pin 7 (screw 8).



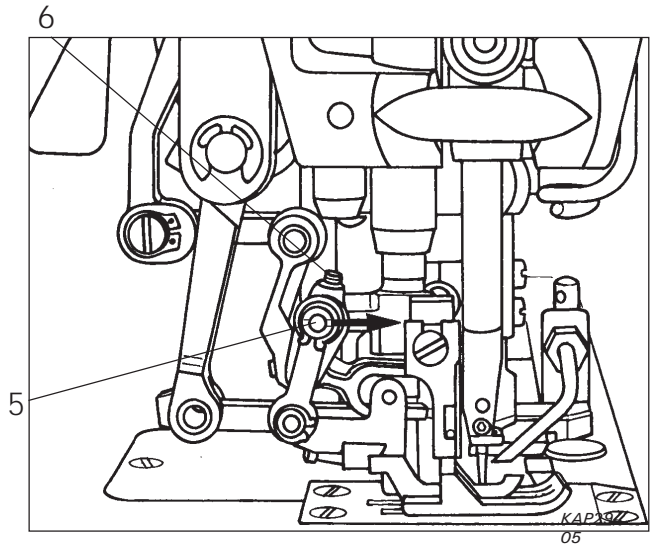
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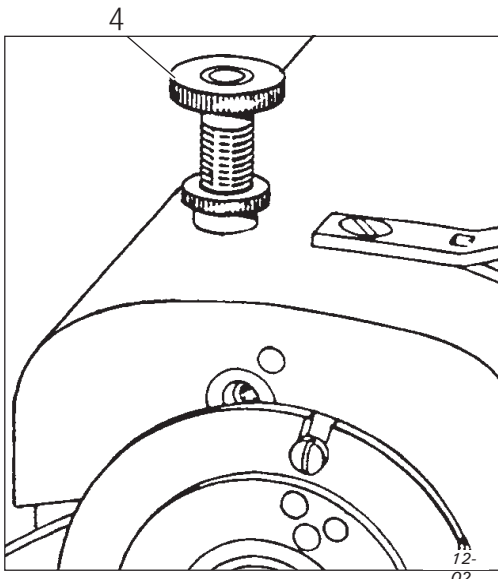
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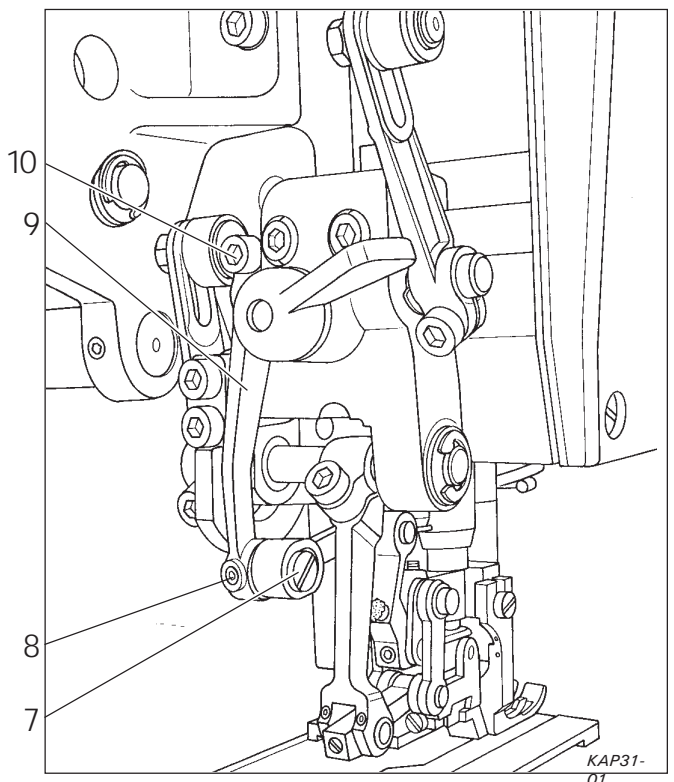
3



4



5



6

37 Top feed lifting motion

Requirement: At stitch length "2" the top feed foot must rest on the bottom feed dog when the latter has reached the top surface of the needle plate on its upward stroke.

Adjust eccentric 1 (Fig. 1, screw 2).

38 Top feed foot position

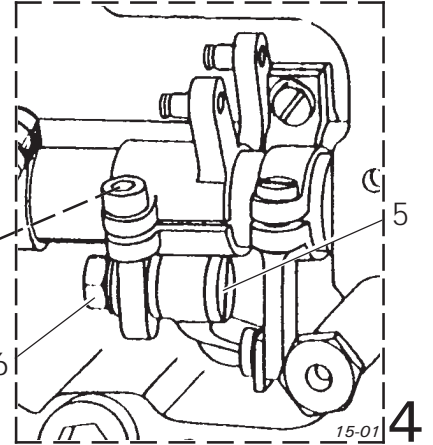
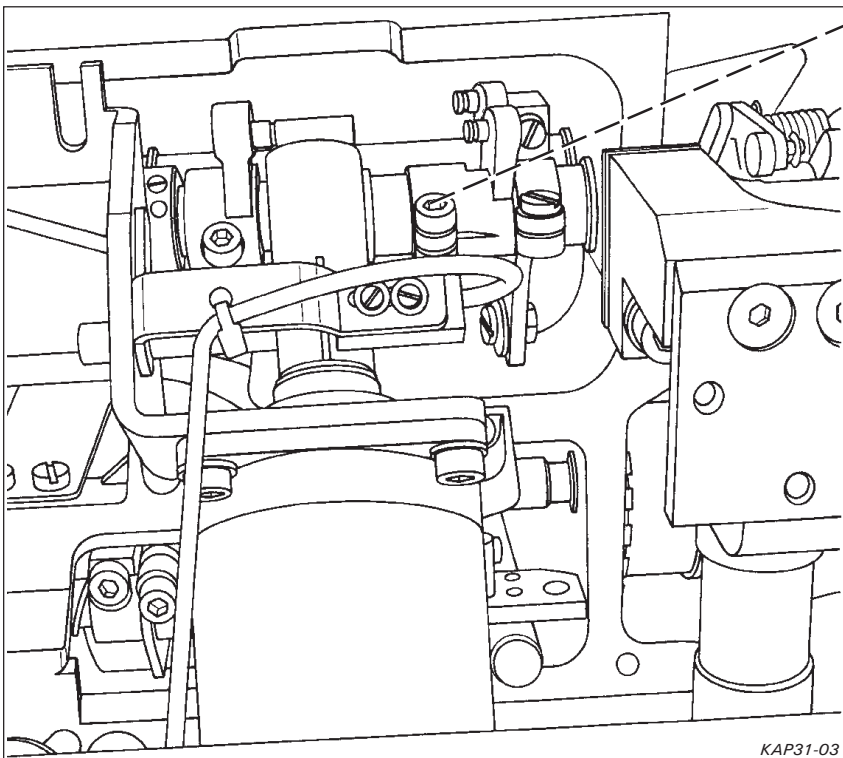
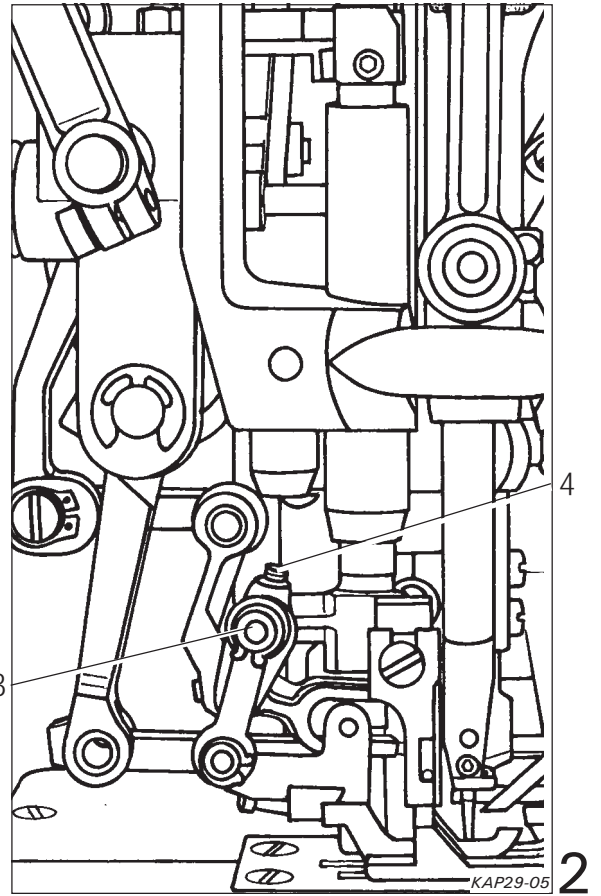
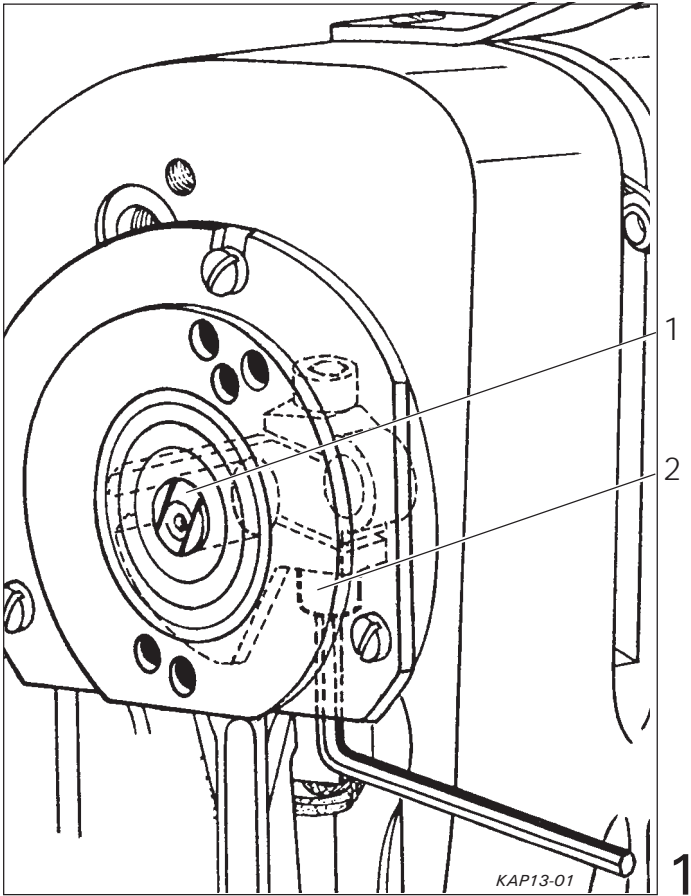
Requirement: When the bottom feed dog is at the top of its stroke, the top feed foot must be parallel with the bottom feed dog.

Adjust eccentric pin 3 (Fig. 2, screw 4).

39 Top feed synchronization

Requirement: At stitch length "3", both top- and bottom feed motions must be the same length.

- .1 Compensate by shifting pin 5 (Fig. 4) in elongated hole (nut 6).
- .2 Adjustment according to chapter 33 must be checked.



40 Stitch length compensation

Requirement: The stitch length set at "3" must be the same length during forward and reverse feeding.

If high accuracy is required, do not use "3" but the actual working stitch length needed.

Slightly turn bush 1 (Fig.1) from its basic position (screw 2) (see chapter 25).

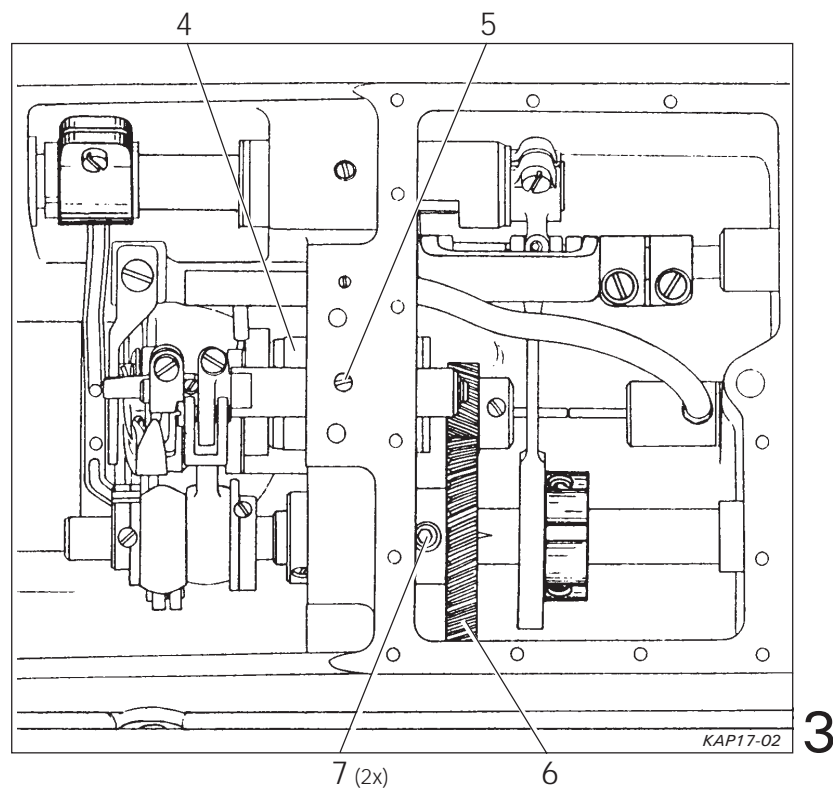
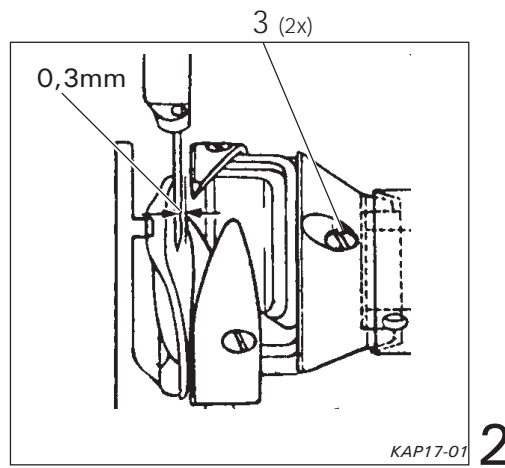
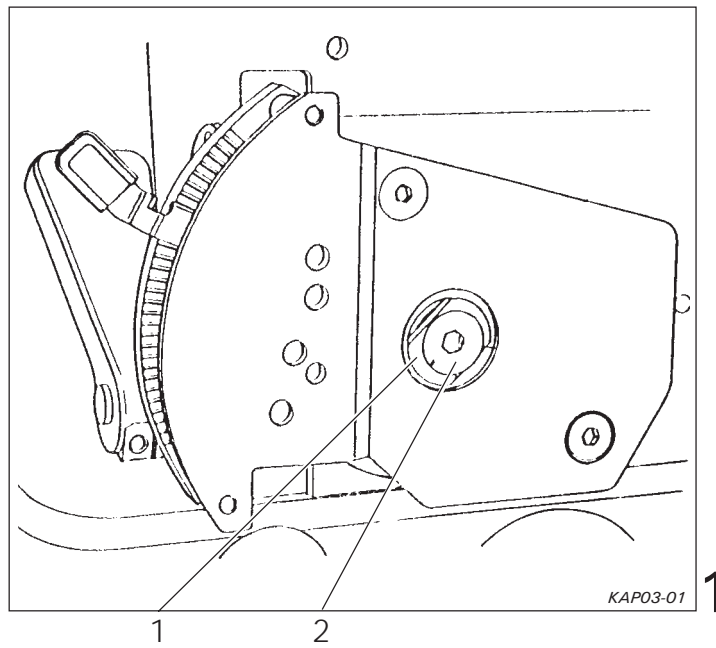
41 Eccentric hook shaft bearing

Requirement: Clearance between hook point and centre of needle clearance cut must be

0.3 mm when the hook is loosened (screw 3) and is up against the oil ring (Fig. 2).

The backlash between the gear teeth must be only slight but still perceivable.

- .1 Position hook shaft bearing 4 axially (screw 5).
- .2 Turn hook shaft bearing to adjust backlash (screw 5).
- .3 Adjust position of gear 6 (two screws 7).



42 Needle height, needle rise and hook clearance

Requirement: In needle bar position 1.8 mm past b.d.c. (= adjustment hole "4") the clearance between needle eye and hook point is 0.8 mm and the max. clearance between hook point and needle is 0.1 mm

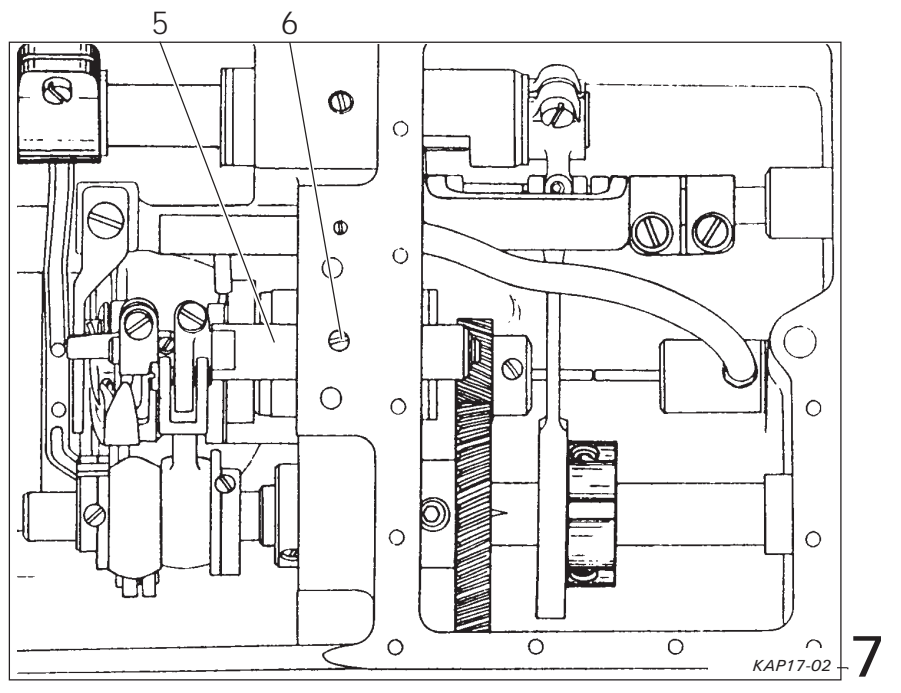
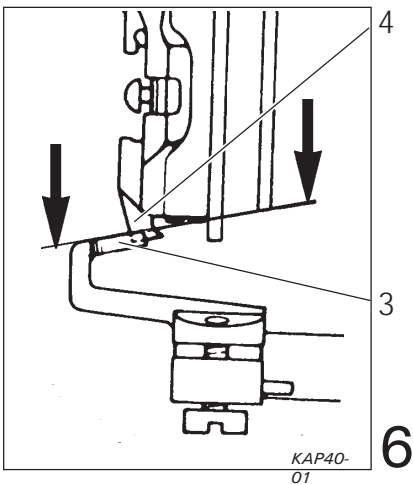
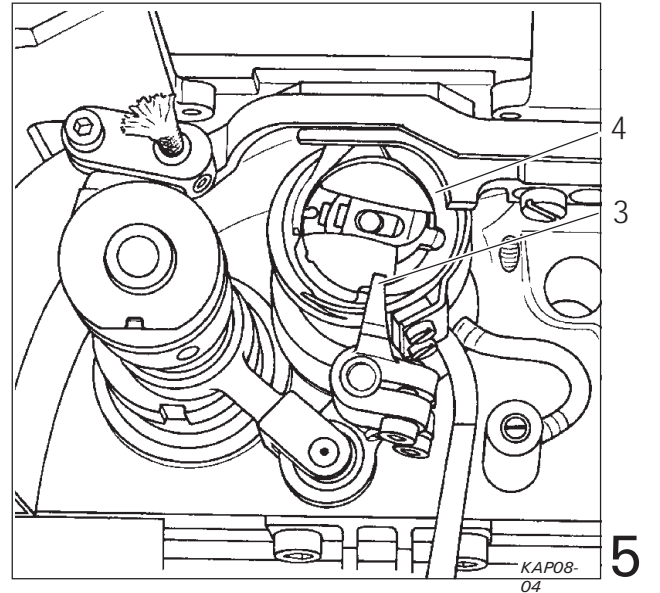
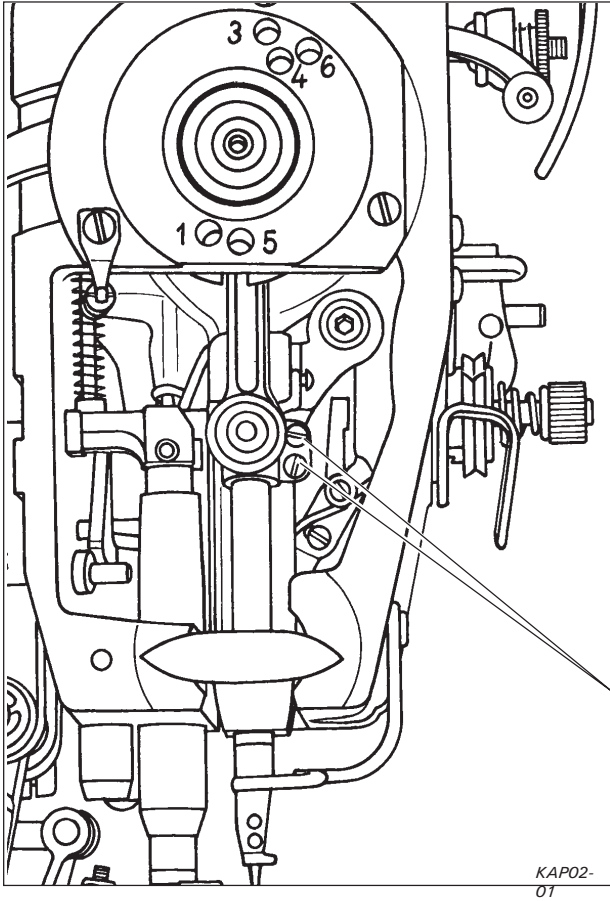
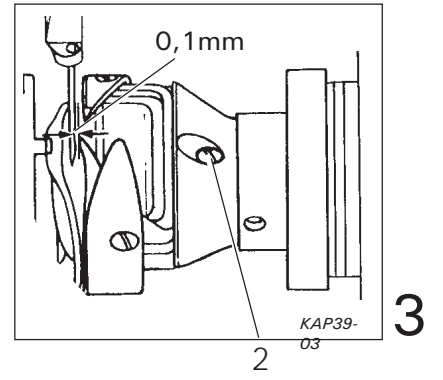
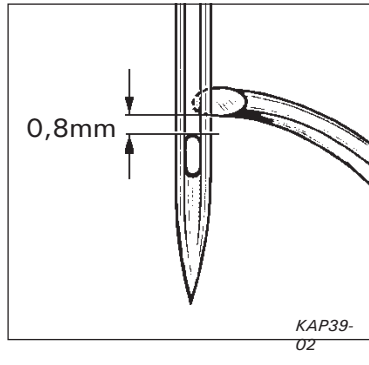
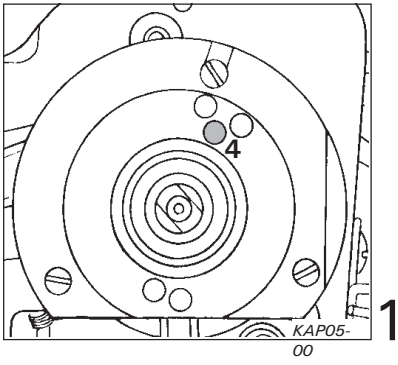
- .1 Adjust needle bar (screws 1, Fig. 4).
- .2 Adjust hook (screws 2, Fig. 3).

43 Bobbin case opener height

Requirement: When bobbin case opener 3 is at its left reversal point (Fig. 5) the opening finger and the stop on hook base base 4 (Fig. 6) must be level with each other.

It must be possible to remove the bobbin case without hindrance.

Turn eccentric bearing 5 (screw 6, Fig. 7).



44 Bobbin case opener position

Requirement: The clearance between bobbin case opening finger 1 and the edge of hook base 2 is 0.8 mm (Fig. 1).

At the left reversal point of opener 3, hook base 4 must be deflected from positioning finger 5 by 0.3 mm (Fig.2)

After adjustment of opening finger 1 (Fig. 2) fixing collar 6 (Fig. 3) must be moved against the opening finger and stop screw 7 set against stop pin 8.

- .1 Axial and radial adjustment of bobbin case opening finger 1 at left reversal point of bobbin case opening shaft (screw 9).
- .2 Fixing collar 6 (screw 7).

45 Bobbin case opener movement

Requirement: When the needle bar is 1.8 mm past b.d.c. (= adjustment hole "4"), bobbin case opener 3 (Fig. 4) must be at its right reversal point.

Eccentric 10 (screws 11).

46 Oil stop-valve

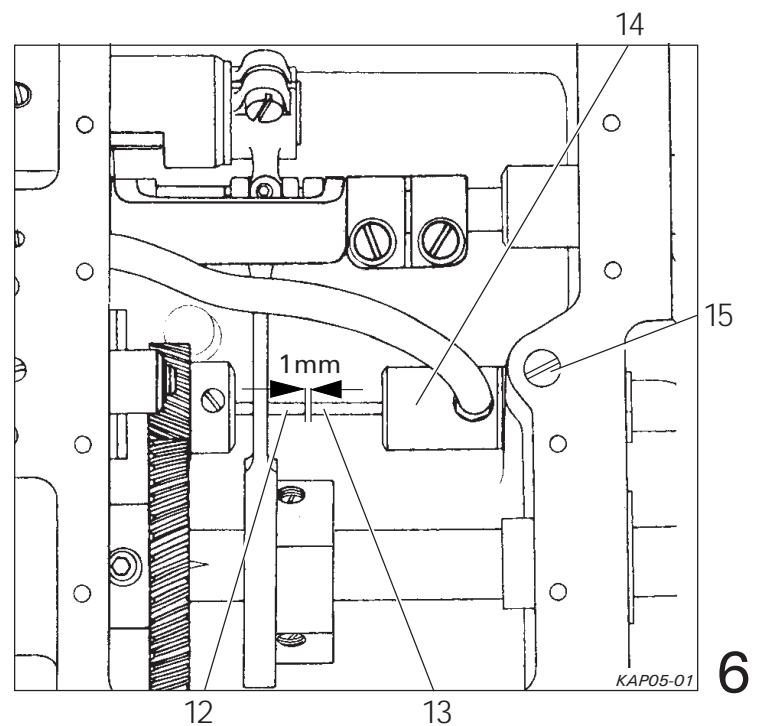
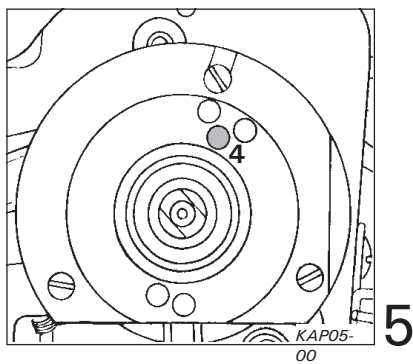
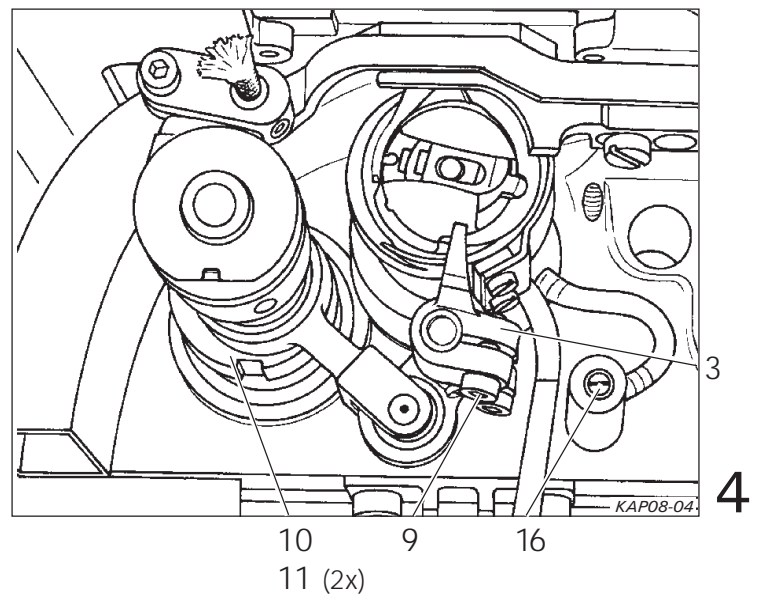
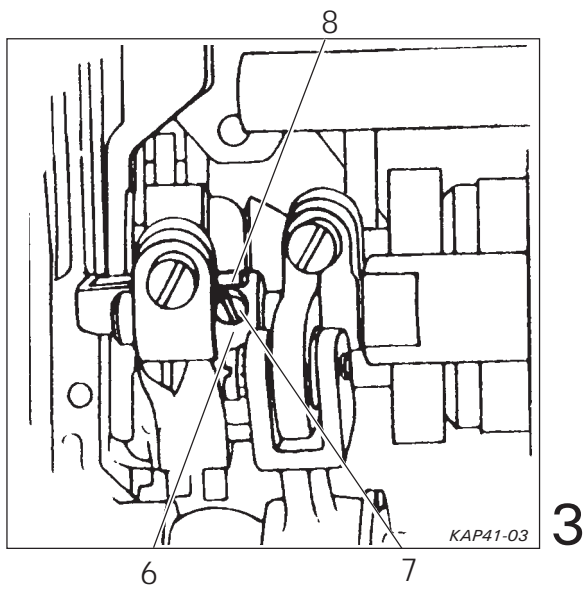
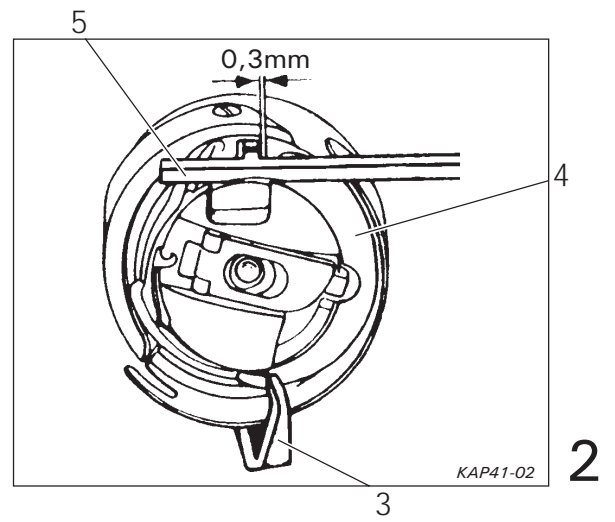
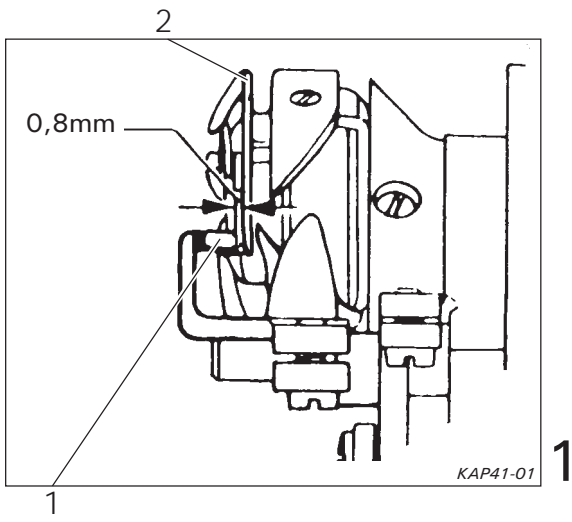
Requirement: Clearance between rods 12 and 14 = 1 mm.

Adjust stop valve 14 (screw 15).

47 Hook lubrication

Requirement: At full machine speed, a fine trace of oil must appear after about ten seconds on a piece of paper held over the hook.

- .1 Check oil level in optic.
(Pfaff sewing machine oil, part No. 280-1-120144, viscosity 15 mm²/s at 50°C and density 0.865 g/cm³ at 15°C)
- .2 Fully close regulating screw 16 (Fig. 4) and unscrew it by about three turns.
- .3 Then regulate oil feed on screw 16.



48 Needle thread tension release

Requirement: When the presser bar lifter is raised, the tension disks must be 0.5 mm apart (Fig. 1).

Tension actuator 1 (screw 2).

49 Thread check spring and thread regulator

Requirement: Thread check spring stroke = 5 to 7 mm

Thread regulator 3 (Fig. 2) must be roughly in the middle.

Both adjustments depend on the thread and the material and may deviate slightly from this basic setting.

- .1 Check spring stroke: loosen clamp plate (screws) and and turn thread tension accordingly.
- .2 Thread regulator 3 (screws 5).

50 Bobbin winder

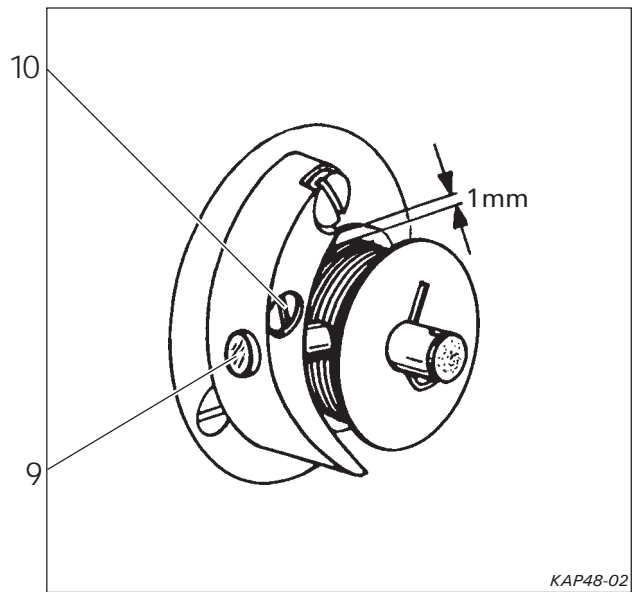
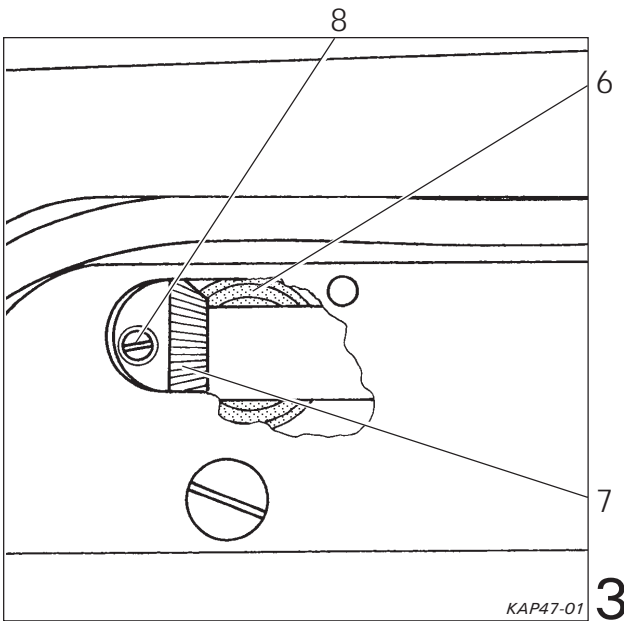
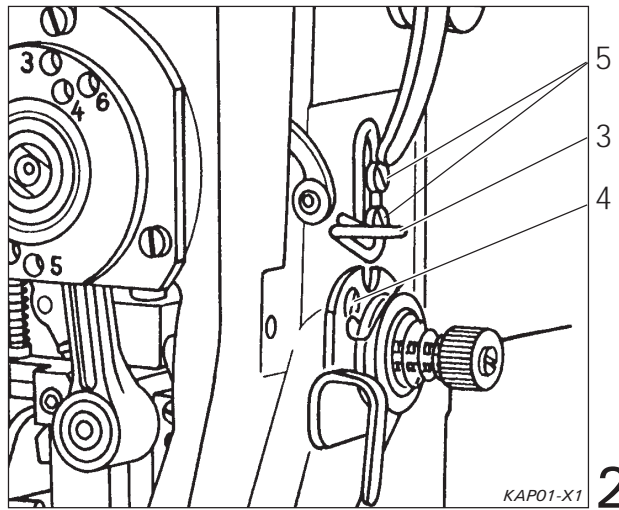
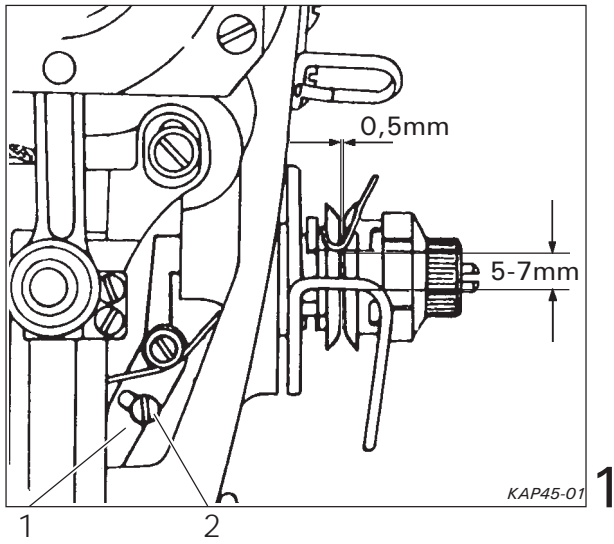
Requirement: When the bobbin winder is engaged, the winding spindle must be driven reliably.

When it is disengaged, friction wheel 6 (Fig. 3) must not touch winder driving wheel 7.

Axial adjustment of bobbin winder driving wheel 7 (screws 8).

Requirement: The bobbin winder must switch off automatically when the amount of wound thread is about 1 mm from the edge of the bobbin.

Adjust pin 9 (screw 10).



51 Position of vibrating presser to lifting presser

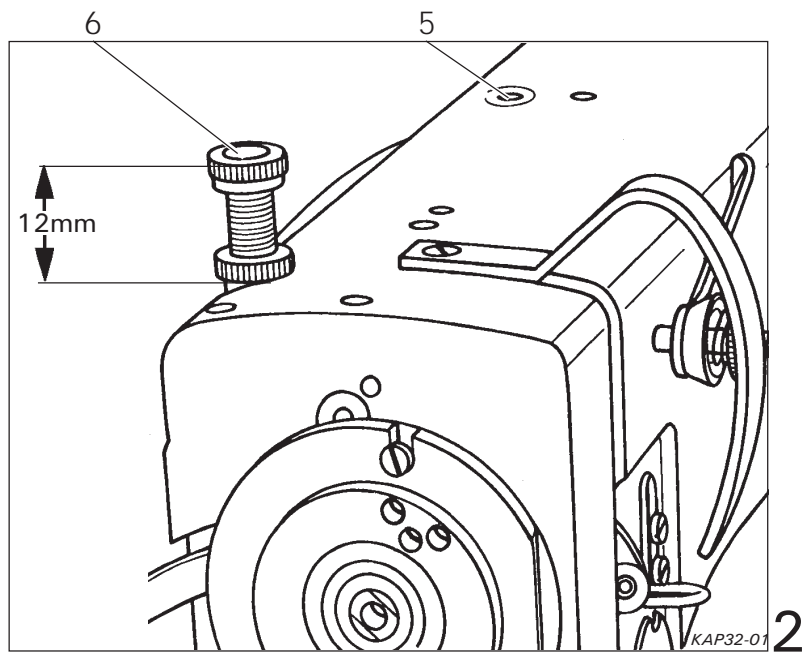
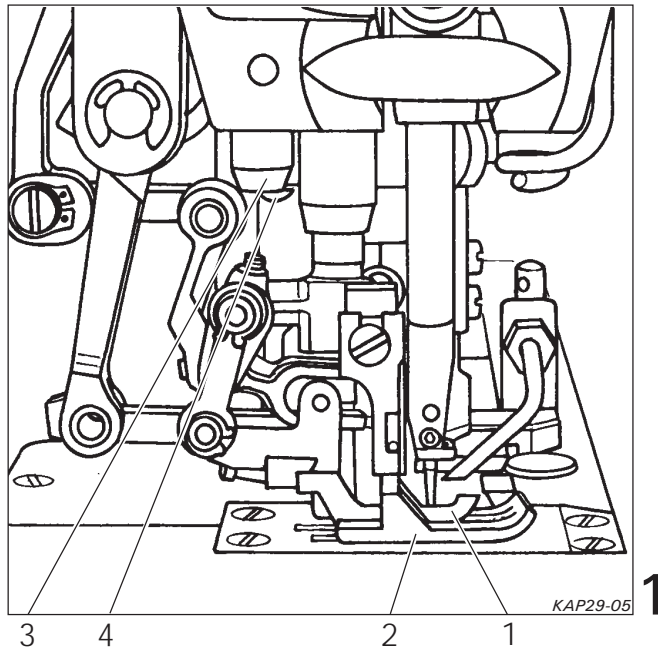
Requirement: When the presser foot is raised by the lifting lever and the take-up is at the top of its stroke, the teeth of top feed foot 1 (Fig. 1) must not protrude under presser foot shoe 2.

Adjust on eccentric sleeve 3 (screw 4).

52 Pressure of vibrating- and lifting pressers

Requirement: The pressure of the vibrating- and lifting pressers must be adapted to each other so that perfect feeding is ensured, even at the highest sewing speed.

- .1 Vibrating presser, basic adjustment: screw 5 (Fig. 2) flush with beginning of thread.
- .2 Lifting presser, basic adjustment: screw 6 at a distance of 12 mm from needle head.



53 Dismantling and re-fitting the take-up lever

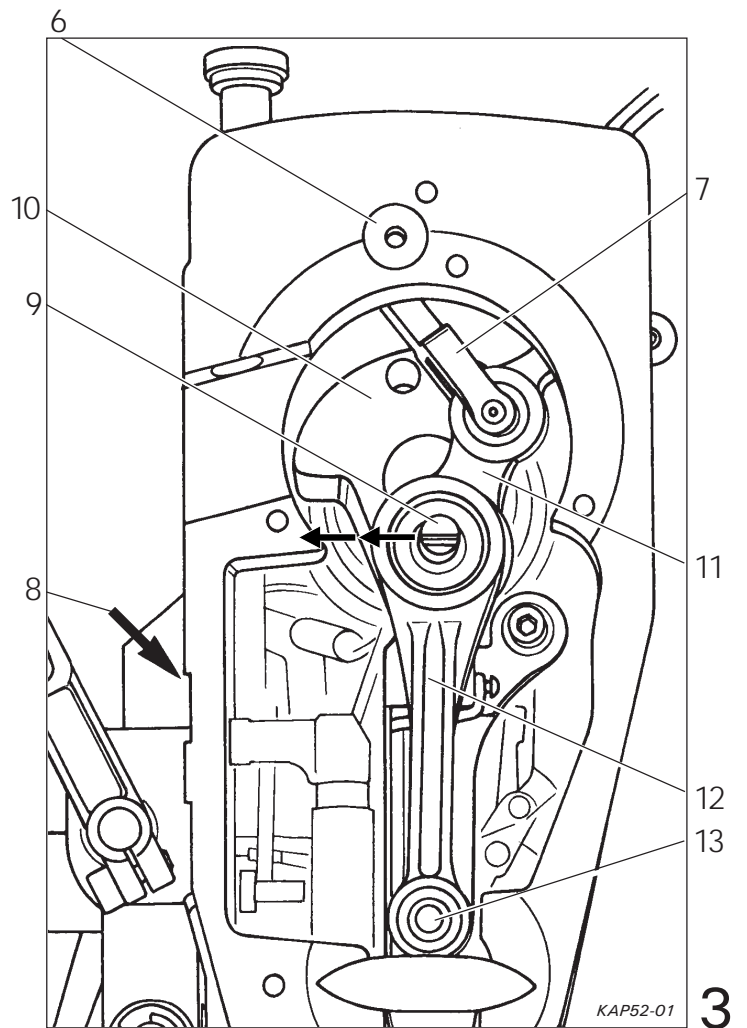
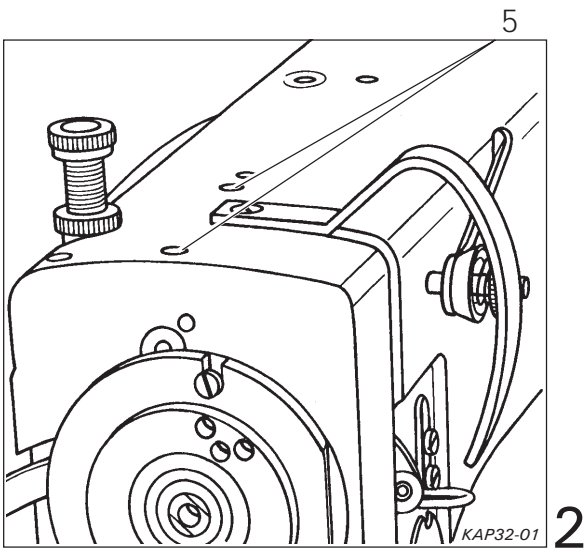
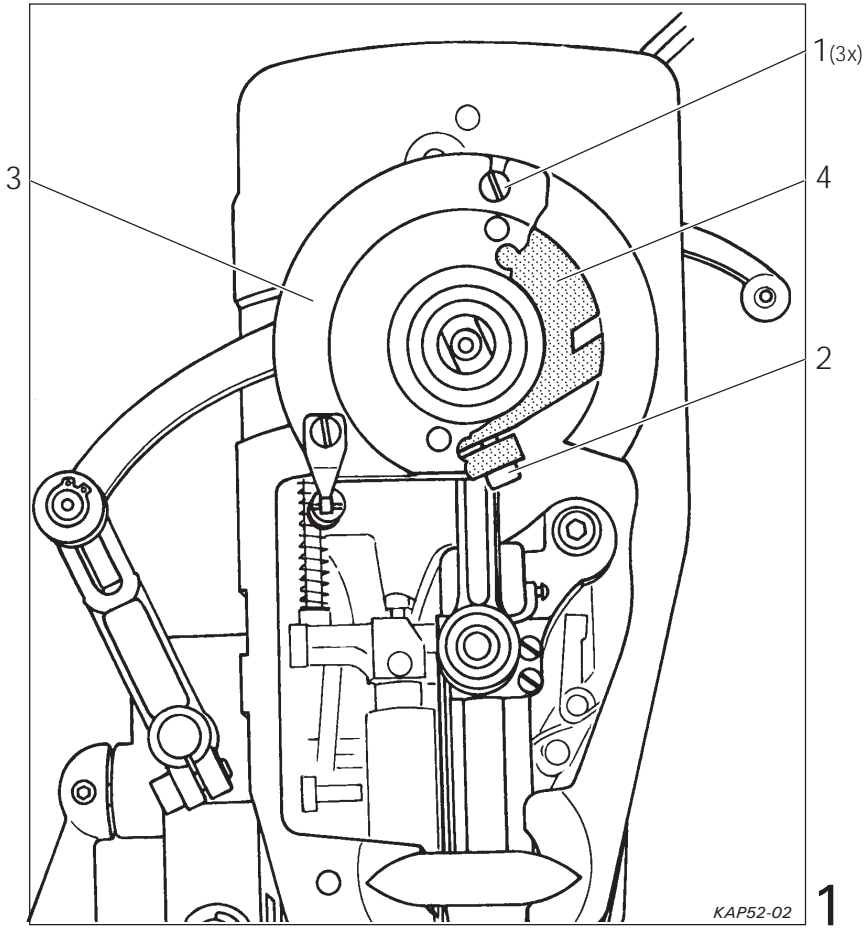
53.1 Dismantling

- .1 Take out screws 1 (Fig.1)
- .2 Loosen screw 2 (caution! Loosen correct screw!).
- .3 Pull off bearing plate 3 with crank 4 parallel.
- .4 Loosen screws 5 (Fig. 2).
- .5 Pull bearing pin 6 (Fig. 3) out, using an M4 screw (from gear cover), pressing lightly against
take-up lever link 7.
- .6 Remove cover 8.
- .7 Loosen the clamp screws of eccentric pin 9 in arm shaft crank 10 through access window (8).
- .8 Set needle bar roughly at bottom dead centre.
- .9 Carefully pull out take-up lever 11 together with needle bar crank 12.

53.2 Re-fitting

- .1 Place take-up lever 11 together with needle bar crank 12 into arm shaft crank 10 and onto needle bar stud 13.
- .2 Swing up take-up lever link 7, insert bearing pin 6.
Position take-up lever in middle of housing slot, set bearing pin 6 and rear bearing bush without play against take-up lever link 7 and tighten screw 5 firmly.
- .3 Set needle bar at bottom dead centre.
- .4 Set eccentric side of eccentric pin 9 towards rear (see arrow at 9).
Observe correct direction!
- .5 Replace bearing plate 3 together with crank 4.

Note: It must be possible to move the bearing plate back and forth easily!
If there is any binding, the take-up lever is jammed, and adjustments 2.3 and 2.4 have to be repeated.
- .6 Tighten screws 1.
- .7 Tighten screw 2.
- .8 Tighten clamp screws of eccentric pin 9 in arm shaft crank 10 firmly through window 8.
- .9 Check that the two screws in the arm shaft crank are really tight.




54 Automatic backtacking system

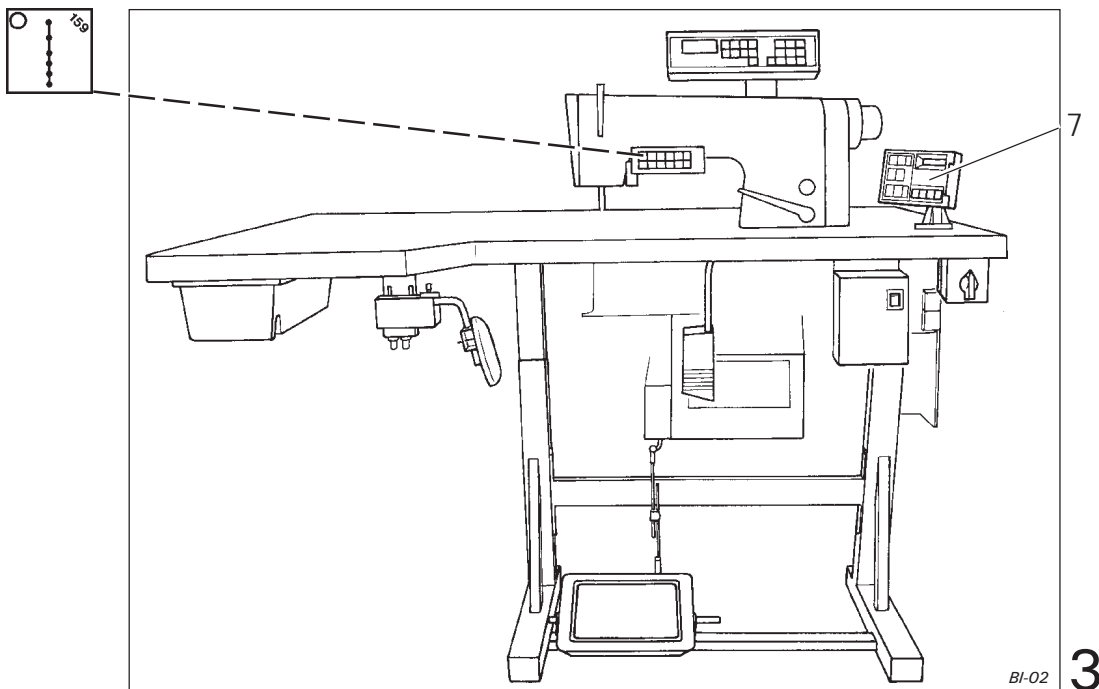
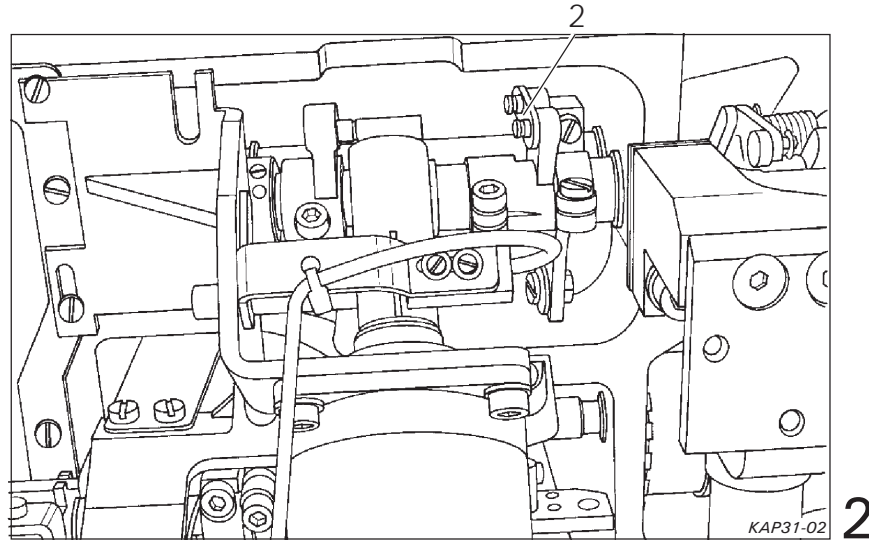
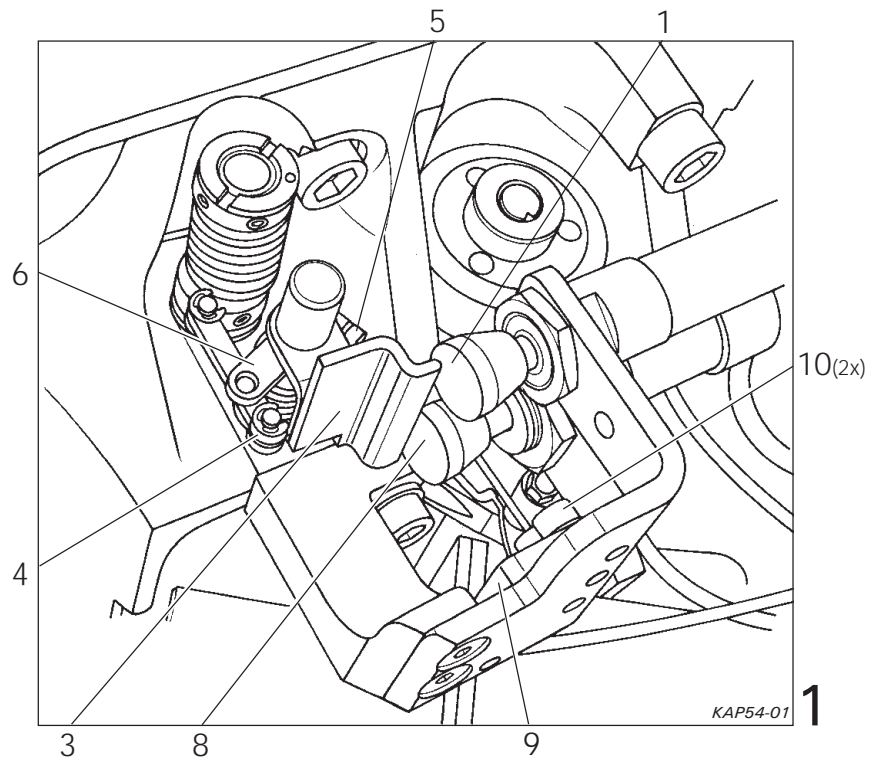
Requirement: When cylinder 1 (Fig. 1) is extended, the machine must sew backwards.

- .1 Fit link 2 (Fig. 2).
- .2 Set stitch length at "3 mm".
- .3 With cylinder 1 retracted, set lever 3 (Fig. 1) against lever 4 (screw 5).
- .4 Place actuating lever 6 against lever 3 and tighten screw 5.
- .5 Take off link 2.
- .6 Select correct motor setting on control panel 7 (Fig. 3) (cf. motor manufacturer's literature).
- .7 Sew a sample seam.

55 Stitch condensation system

Requirement: When cylinder 8 (Fig. 1) is extended the machine must sew at a shorter stitch length than the one set on the feed regulator.



- .1 Switch on stitch condensation (key  (LED on)).
- .2 Sew a sample seam.
- .3 Set the condensation stitch length: bracket 9 (screws 10).



56 Edge trimmer system (only on 3822-1/02)



56.1 Trimming movement

Requirement: Top dead centre of needle bar (= adjustment hole "5", Fig. 1) = top of knife stroke.

- .1  Switch on trimming mechanism (key , LED on, Fig. 2).
- .2 Set needle bar at top of its stroke (balance wheel).
- .3 Adjustment: turn eccentric 1 until top knife is at top of its stroke (screws 2, Fig. 3).



56.2 Neutral point (no cutting movement)

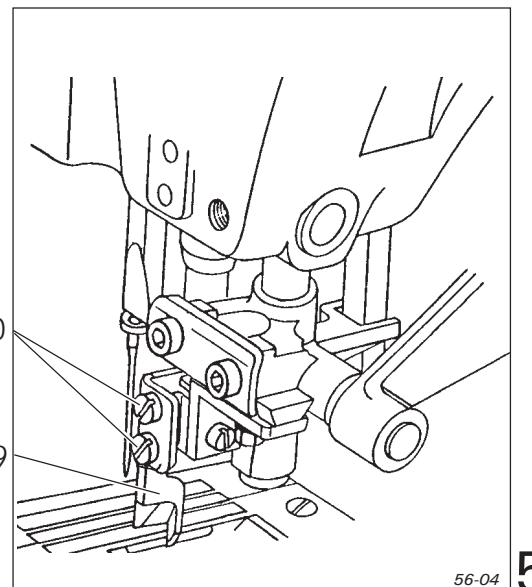
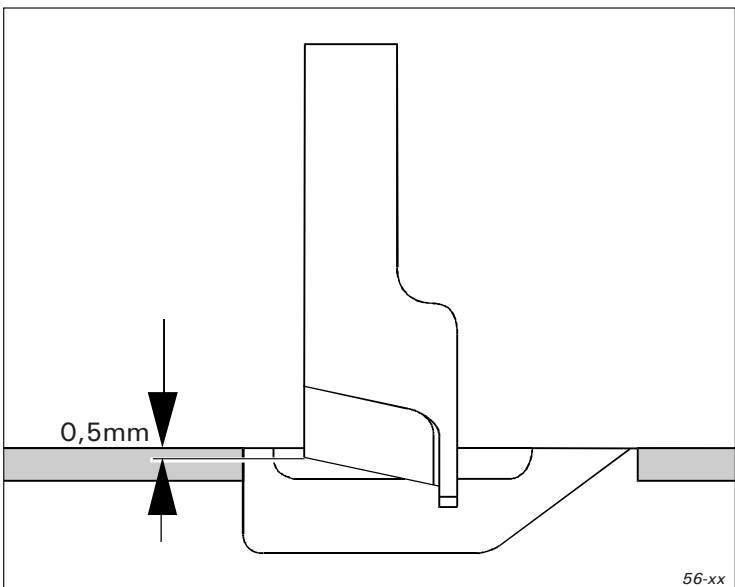
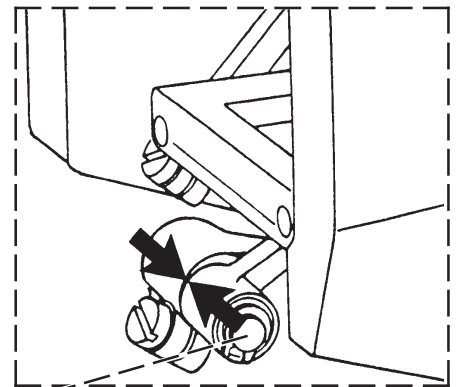
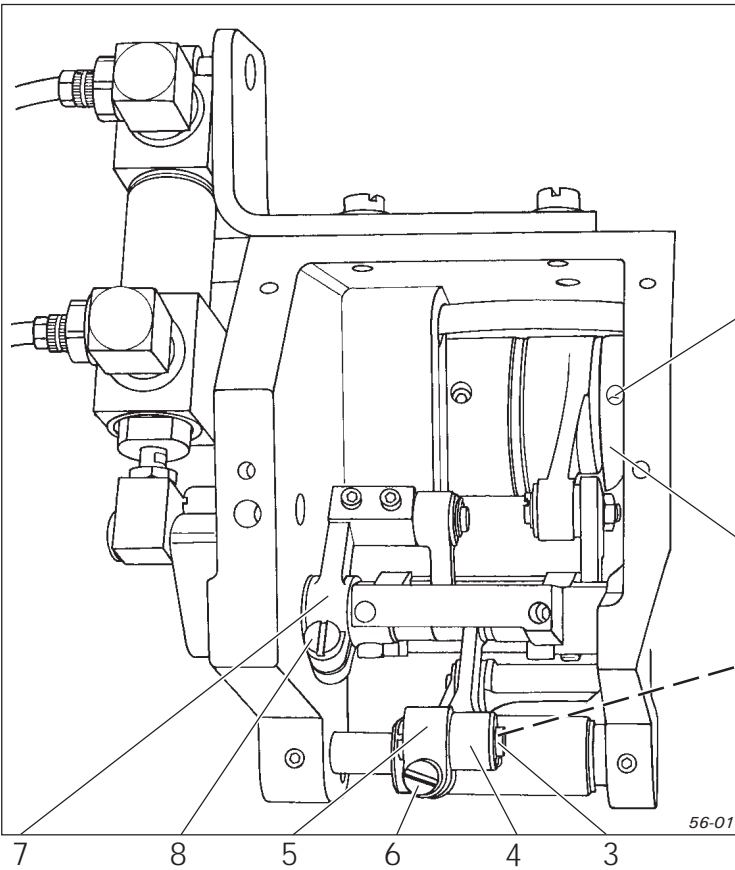
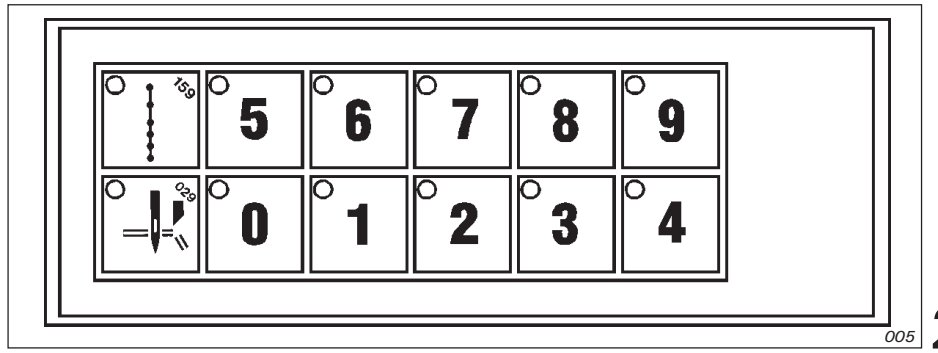
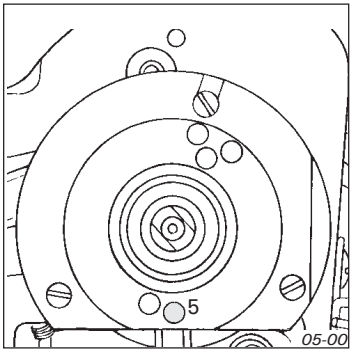
Requirement: When the trimming mechanism is disengaged and the balance wheel is turned, there must be no up- or downward movement.

- .1  Switch off trimming mechanism (key , LED off, Fig. 2).
- .2 Turn eccentric pin 3 (Fig. 3) so that eyes of levers 4 and 5 are aligned with each other (screw 6).
- .3 Turn lever 7 until top knife is motionless when balance wheel is turned (screw 8).

56.3 Knife height

Requirement: When the knife is in its lowest position the front of the cutting edge must be about 0.5 mm under the top needle plate surface (Fig. 4)

- .1 Remove presser foot
- .2  Switch on trimmer (key , LED on, Fig. 2)
- .3 Set top knife in lowest position (balance wheel).
- .4 Position top knife 9 (Fig. 5) according to requirement (screws 10).





56.4 Positioning the top knife in sewing direction

Requirement: The needle must be at the middle of the top-knife cutting edge (Fig. 6).

Shift knife bracket 11 (Fig. 7) according to requirement (screw 12).

56.5 Positioning the top knife crosswise to sewing direction

Requirement: Top knife 9 must rest on the counter knife with a light pressure (the knife spur must not strike the counter knife!)

.1  Switch on the trimming mechanism (key , LED on, Fig. 2).

.2 Set top knife at lowest position (balance wheel).

.3 Place top knife with light pressure against counter knife (screws 13, Fig. 7).

Requirement: Top knife 9 (Fig. 8) must be at a slight diagonal to counter knife 14 (shearing action).

.4 Set knife bracket 11 (Fig. 7) at a slight diagonal (screw 15).

56.6 Adjusting the stop eccentric

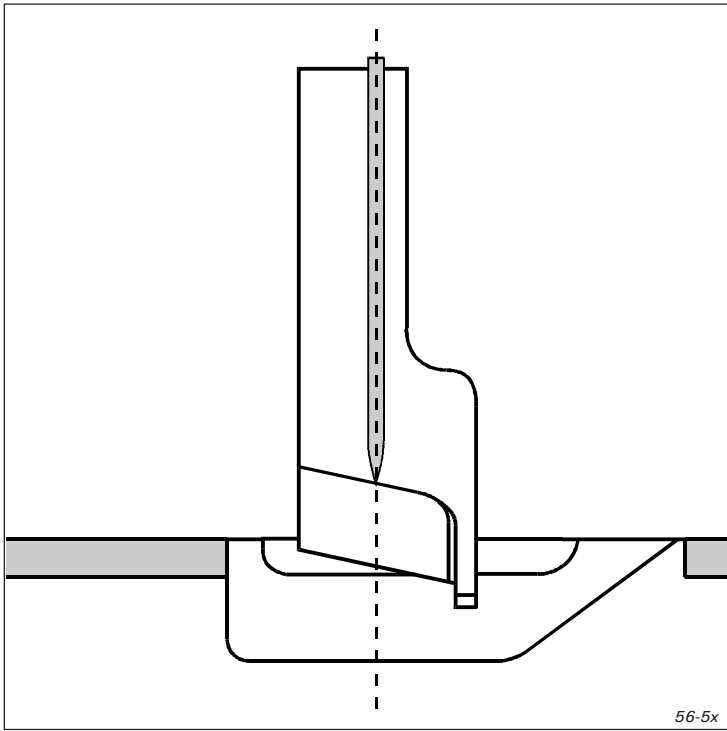
Requirement: When stop 16 (Fig. 9) is resting on eccentric 17, there must be a clearance of about 5 mm between the front edge of housing 18 and lever 19.

.1 Disconnect compressed air.

.2 Pull plunger 20 fully downwards.

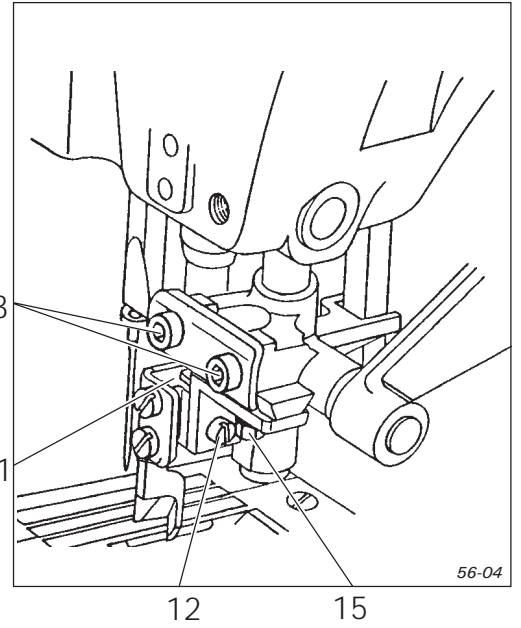
.3 Making sure that stop 16 is resting on eccentric 17, set eccentric 17 according to requirement (screw 21).

.4 Re-connect compressed air.



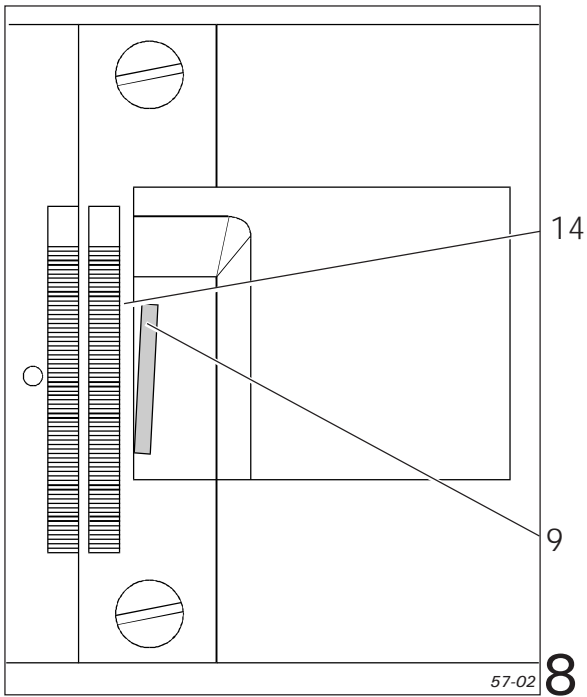
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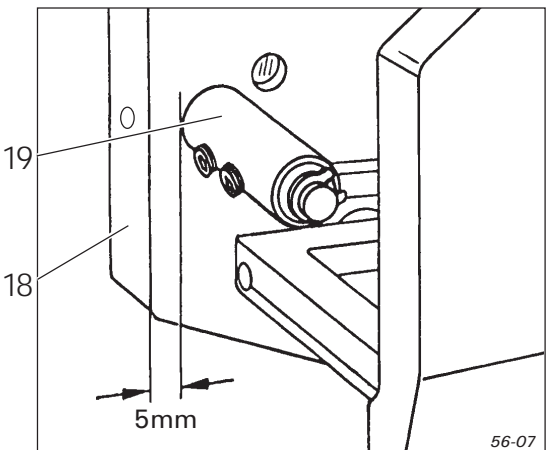
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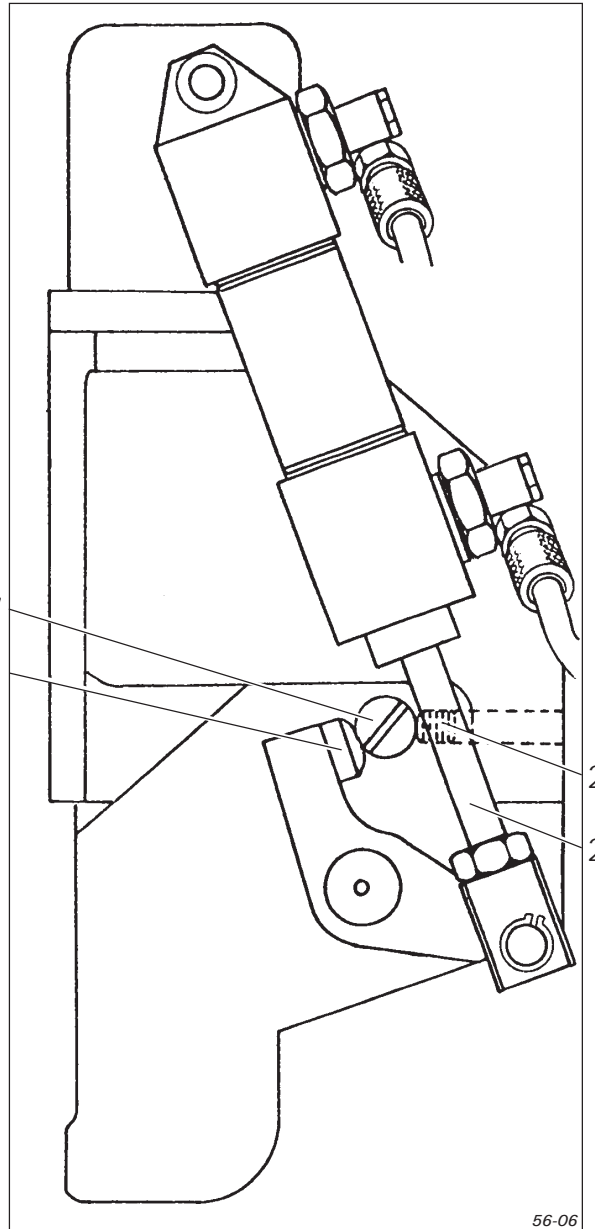
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56-07

10



56-06

9

57 Step-cut (feather-cut) trimming mechanism (only on 3822-1/04)

57.1 Note on motor control



Setting deviates from 1st stopping position !!

Requirement: When the teeth of the descending feed dog are in line with the top surface of the needle plate, the first stopping position **must** be made.

57.2 Preparations for adjusting the trimmer

Remove:



- Presser foot
- Complete top knife bracket 1 (loosen screws 2, Fig. 1)
- Cover of knife drive

57.3 Setting the longest knife stroke

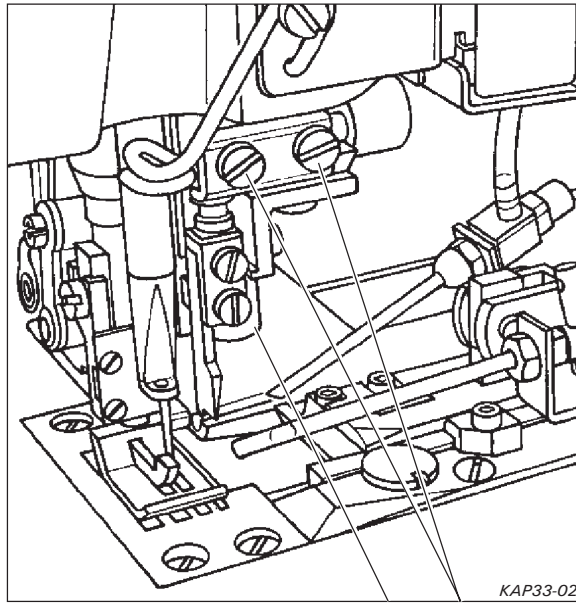
Set actuating lever 3 (Fig. 2) **right** at bottom of elongated hole in lever 4 (nut 5).

57.4 Setting the top reversal point of the knife

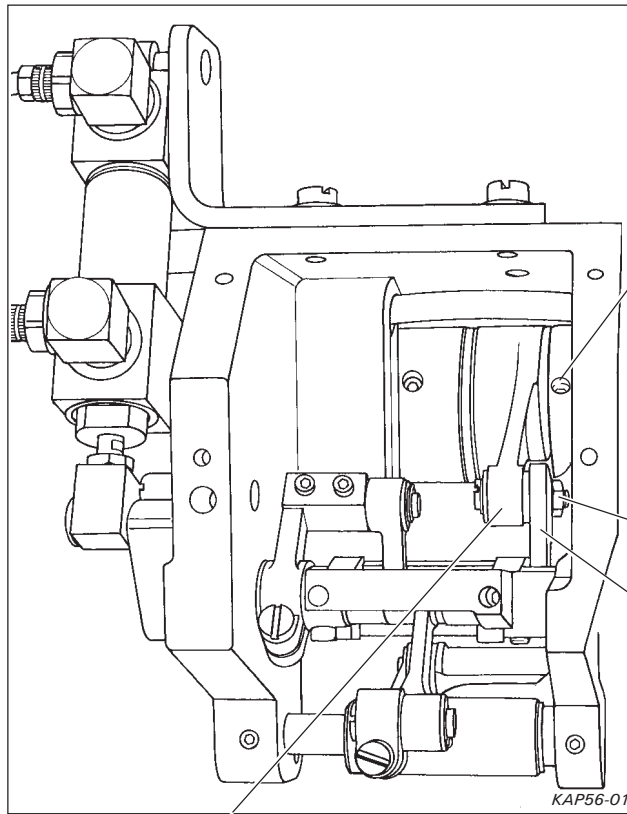
Requirement: When the eye of the descending needle is level with the needle plate, the downwards movement of the top knife must begin.

.1  Switch on trimming mechanism (key , LED on, Fig. 3).

.2 Adjustment: eccentric 6.



KAP33-02 **1**



KAP56-01 **2**

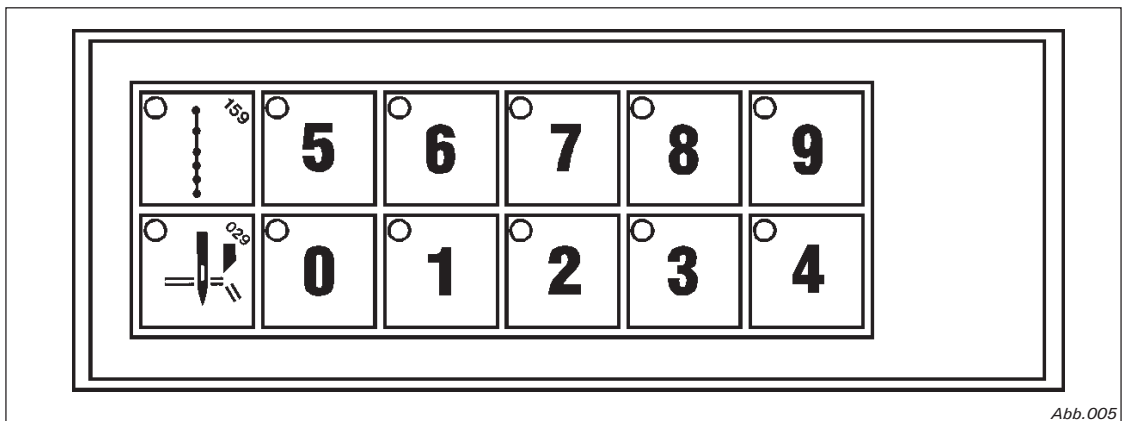


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57.5 Positioning the top knife bracket and front top knife according to the needle plate

Note: In carrying out the adjustment and checks make sure that the top and bottom knives do not strike each other.

- .1 Remove rear top knife (Fig. 4, screws 8).
- .2 Push in top knife assembly 1 (Fig. 5, tighten screws 2 just a little)

57.5.1 Cutting angle of the front top knife

Requirement: Front top knife 9 (Fig. 5) must be diagonal by 0.1 mm to bottom knife 10 (cutting angle) and rest against it **without any side pressure (Fig. 6)**

- .3 Push top knife bracket 1 so far forward that front top knife 9 rests lightly against bottom knife (screws 2).
- .4 Turn top knife bracket 11 (Fig. 5) to one side according to requirement (screw 12).

Check: with clearance gauge.

57.5.2 Cutting position of the front top knife

Requirement: The rear edge of front top knife 9 **must** be absolutely flush with the edge marked in Fig. 7 (see arrow).

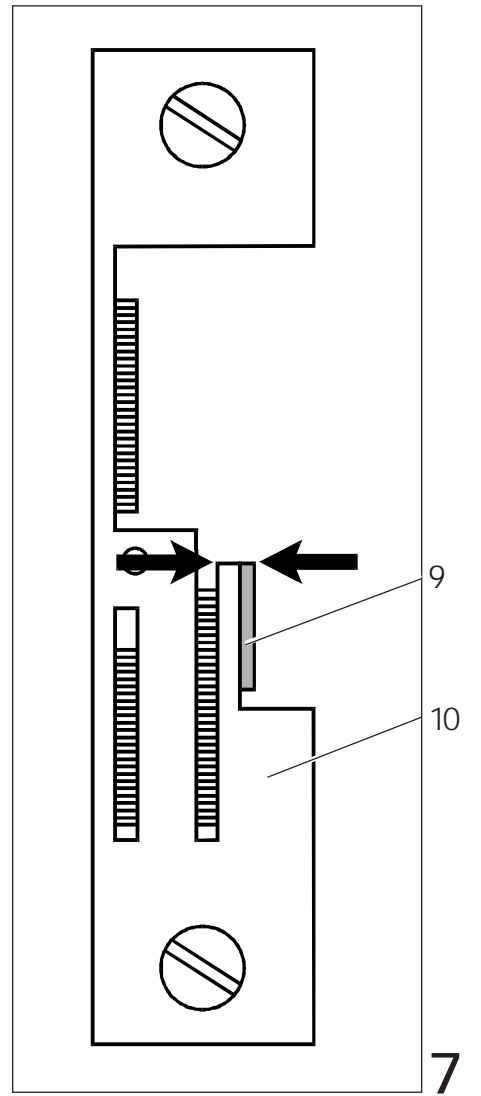
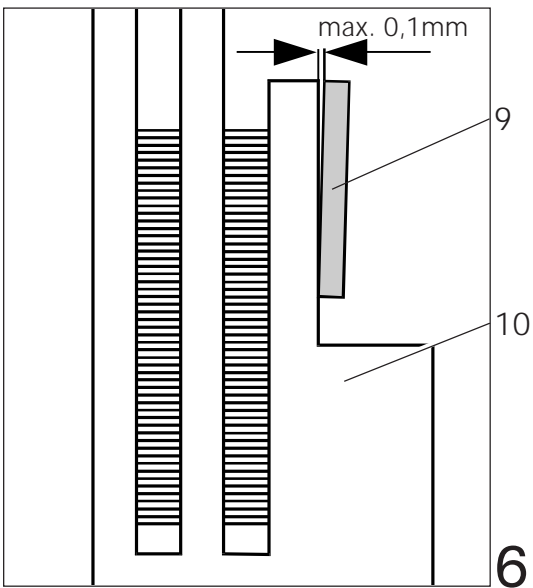
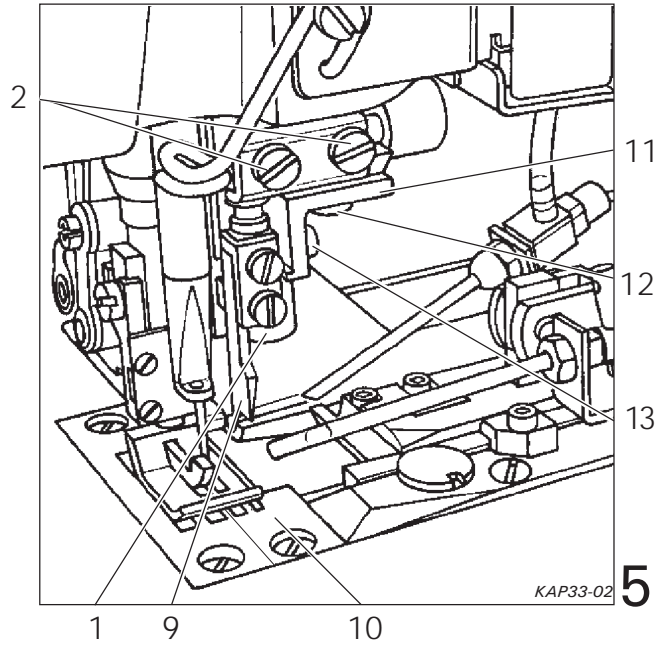
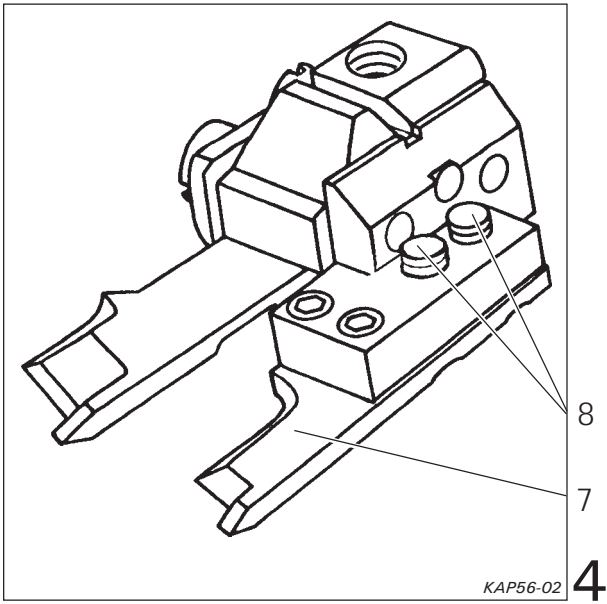
Adjustment: Position knife bracket 1 (Fig. 1) according to requirement (screw 13).

57.5.3 Cutting pressure of the front top knife

Requirement: There must only be enough cutting pressure as absolutely necessary.

After the cutting pressure is set, the diagonal of 0.1 mm (cutting angle) set according to chapter 57.5.1 must not be less than 0.05 mm.)

Apply cutting pressure (shift top knife bracket assembly 1, Fig. 5, against counter knife, screws 2).



57.6 Neutral point of top knife movement

Requirement: When the trimming mechanism is switched off, the top knives must be motionless.



Switch of trimming mechanism (key , LED off, Fig. 8).

Set link 14 (Fig. 9), while turning the balance wheel, so far forward or backward that the top knives become motionless (screw 15).

57.7 Setting top knife at highest point

Requirement: The top knife must be set at the highest point of its stroke

Adjustment: eccentric screw 16 (screw 17).

57.8 Positioning the rear top knife and hook knife (after changing top knives)

(For adjustments required after a new top knife bracket is fitted, please see chapter 57.11.)

57.8.1 Lateral position of the rear top knife to hook knife

Requirement: The rear edge of rear top knife 7 (Fig. 11) must be flush with hook knife 20 (see arrow in Fig. 11).

- .1 Remove front top knife 9 (Fig. 10, screws 18).
- .2 Loosen knife retaining screws 8 (Fig. 12) and position rear top knife to side according to requirement.
- .3 Continued on page 60.

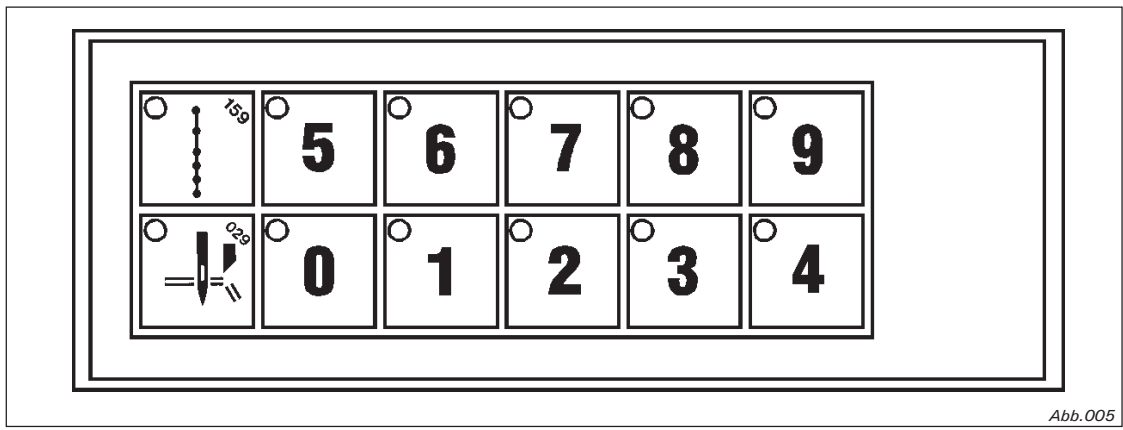
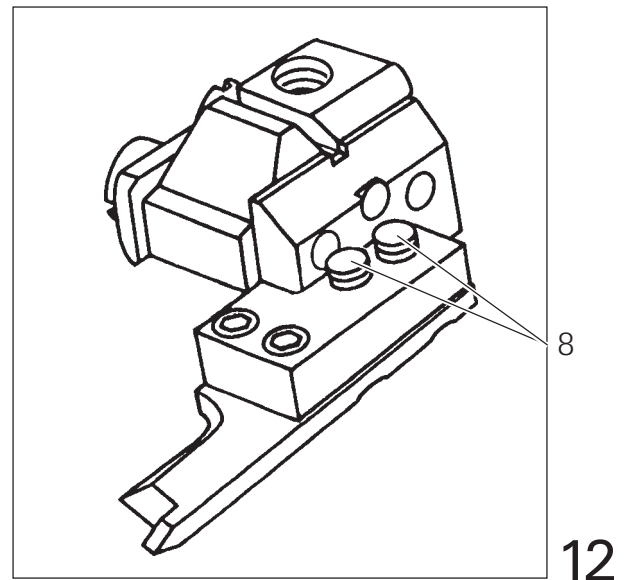
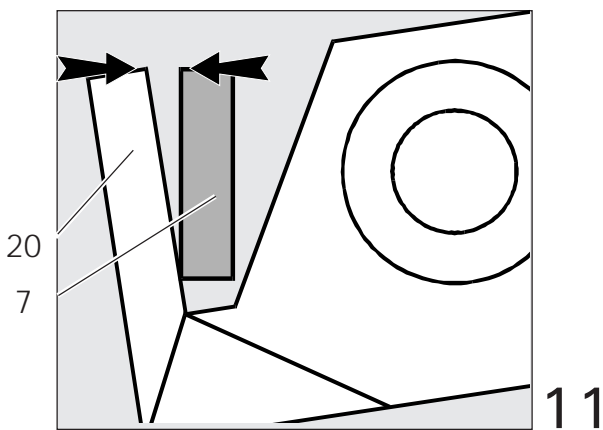
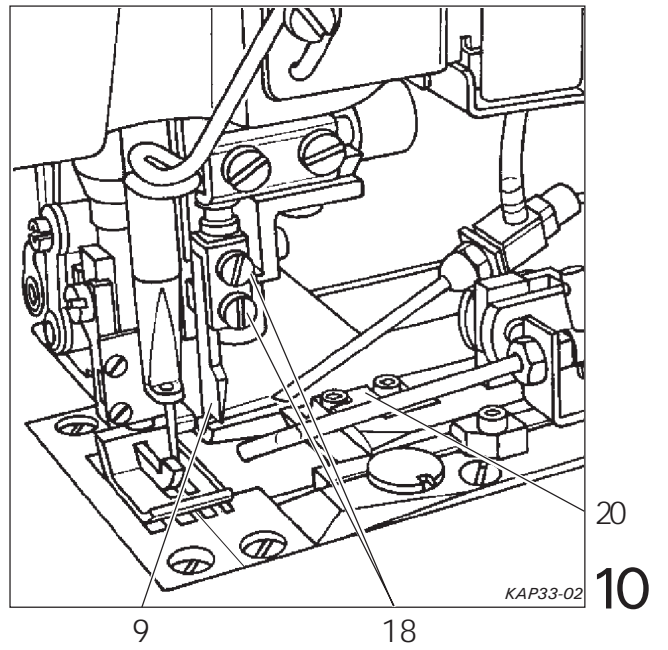
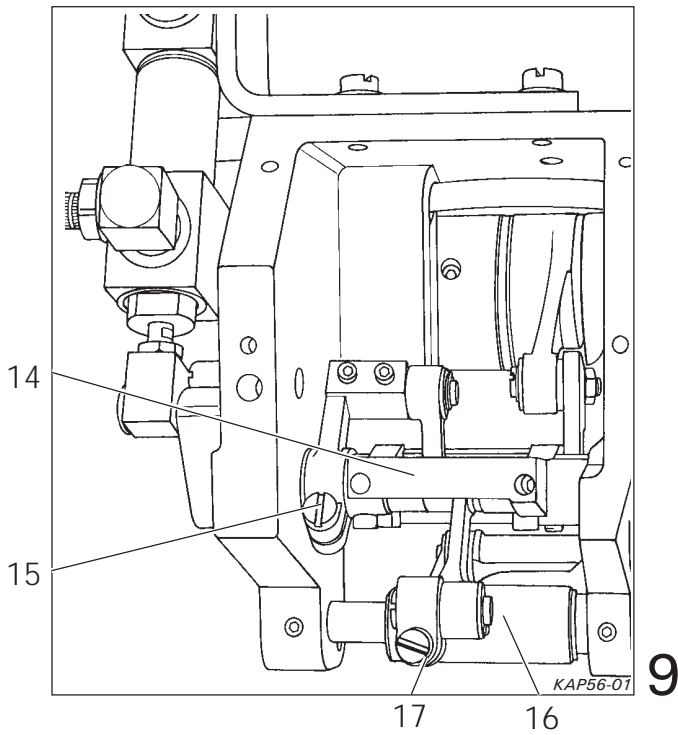




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57.8.2 Cutting angle of the rear top knife in relation to the hook knife

Requirement: Hook knife 20 must be at a diagonal to rear top knife 7 (without lateral pressure) by 0.05 to 0.1 mm (cutting angle, Fig. 15).

- .1  Switch on trimming mechanism (key  , LED on, Fig. 13).
- .2 Disconnect compressed air.
- .3 Move hook knife 20 to the cutting position by means of cylinder 21 (unit must move freely and without lateral play!)
- .4 Set rear top knife 7 in cutting position (balance wheel).
- .5 Set hook knife 20 in relation to hook knife 7 so that cutting angle corresponds with requirement (screw 22).
- .6 Re-connect compressed air.

57.8.3 Cutting pressure between rear top knife and hook knife

Requirement: The cutting pressure must only be as much as absolutely necessary.

After the cutting pressure is set, the diagonal position of hook knife 20 in relation to rear top knife 7 (cutting angle), set in chapter 57.8.2, must not be less than 0.05 mm.

Adjustment: adjust stop 23 (Fig. 14, screw 24).

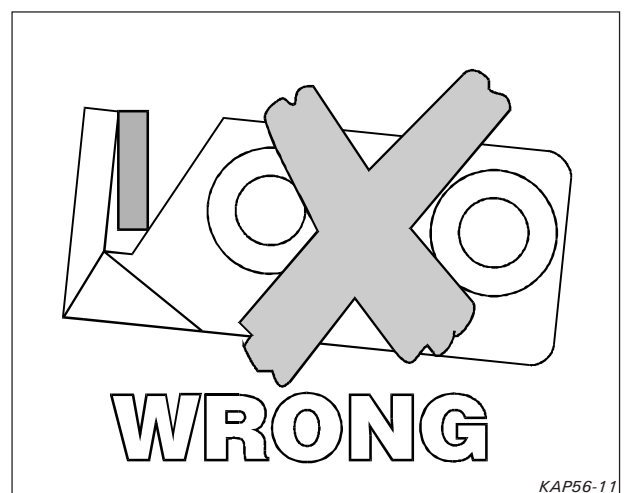
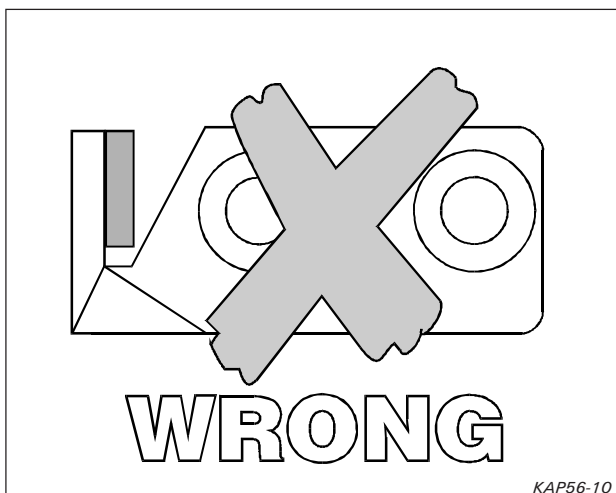
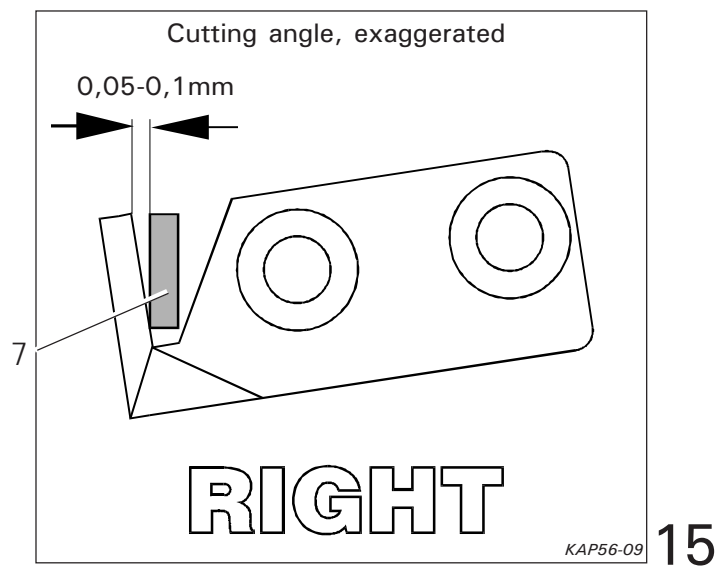
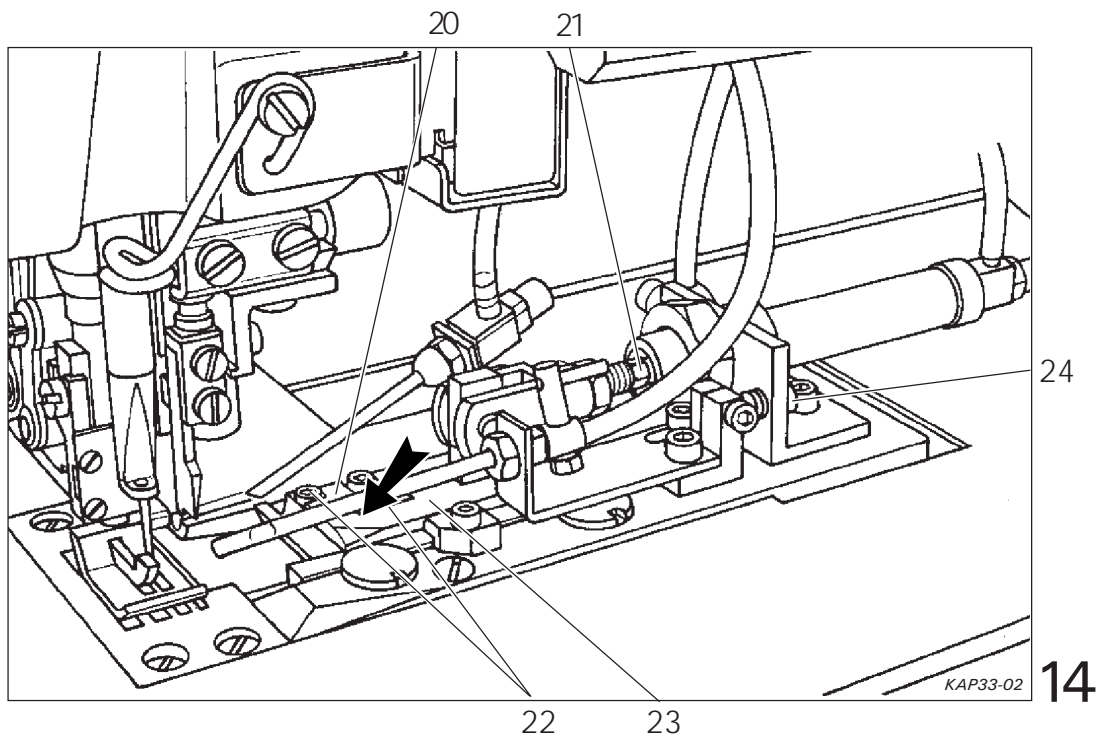
Note: Make sure that cylinder 21 (Fig. 14) always moves through the full stroke limited by stop 23.

Therefore, no lint must be allowed to collect in the area of stop 23 (arrow in Fig. 14).

When the rear top knife loses sharpness, increase the cutting pressure by means of screw 24.





Do not increase the cutting pressure too much, or the hook knife may break!





57.8.4 Setting the cutting depth of the rear top knife in relation to the hook knife

Requirement: In its lowest position, rear top knife 7 must cross hook knife by 0.5 mm (Fig.16).

- .1  Switch on trimming mechanism (key , LED on, Fig. 17).
- .2 Set top knife in cutting position; see also chapter 57.1).
- .3 Set hook knife at cutting position (knee switch 4, Fig. 18).
- .4 Set top knife height, eccentric 16, screw 17 (Fig. 19).

57.9 Setting the cutting depth of the front top knife

Requirement: Front top knife 9 (Fig. 21) must make two thirds of its cutting stroke before rear top knife 7 begins to cut.

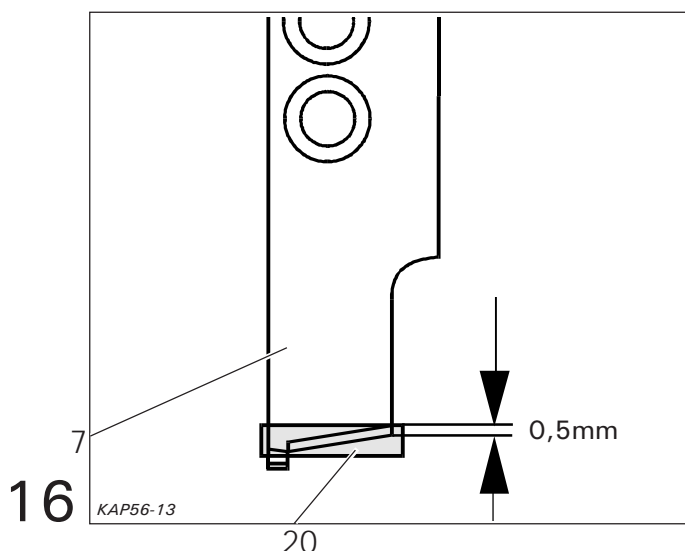
- .1  Fit front top knife 9 (Fig. 20, screws 18).
- .2 Switch on trimming mechanism (key , LED on, Fig. 17).
- .3 Set top knives in highest position (balance wheel).
- .4 Engage hook knife 20 (knee switch 4, Fig. 18)
- .5 Adjust knife height (front top knife 9) according to requirement (screws 18, Fig. 21).

57.10 Setting the trimming margin

Requirement: The trimming margin must be set at 3.5 mm

Sew a sample seam and check the trimming margin.

Correction: On the two screws 25 (Fig. 21)
Caution, do not change cutting angle!



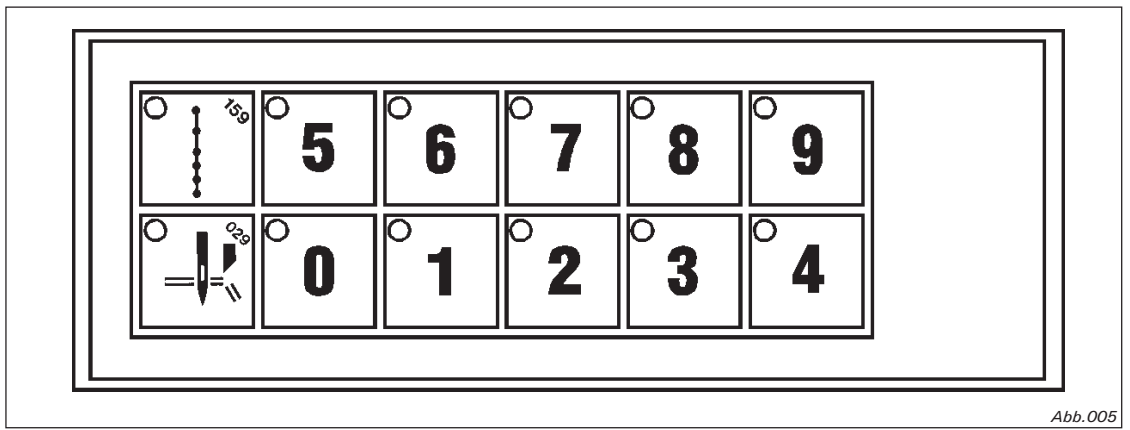
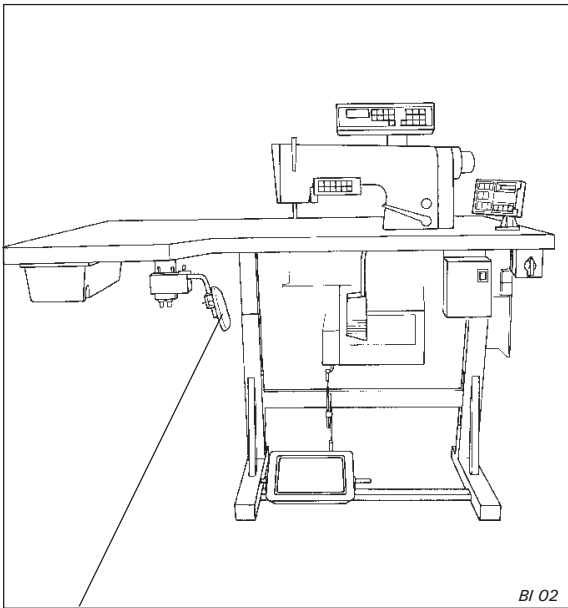


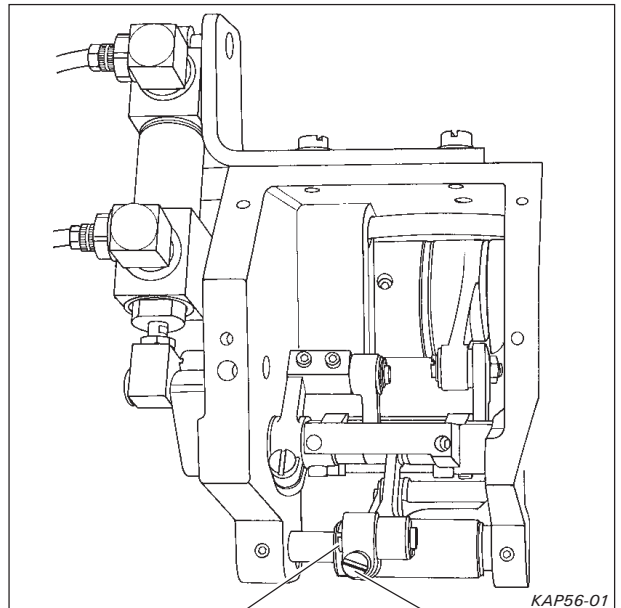
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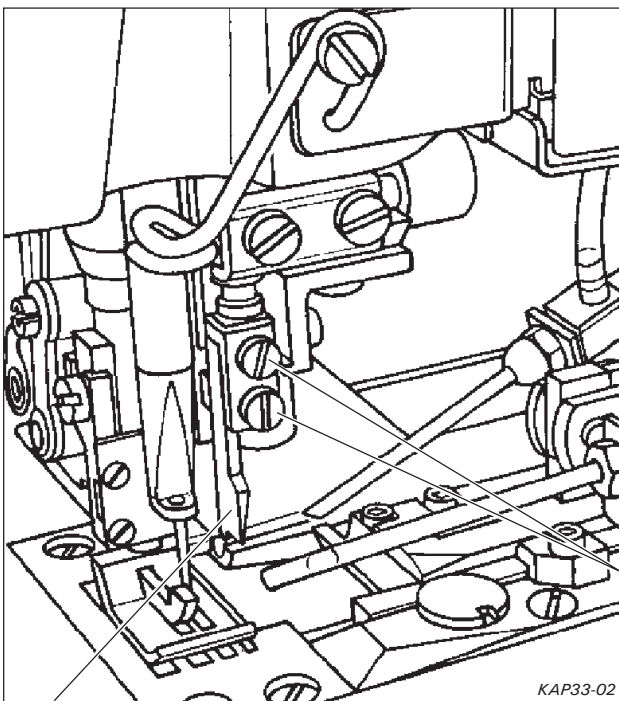
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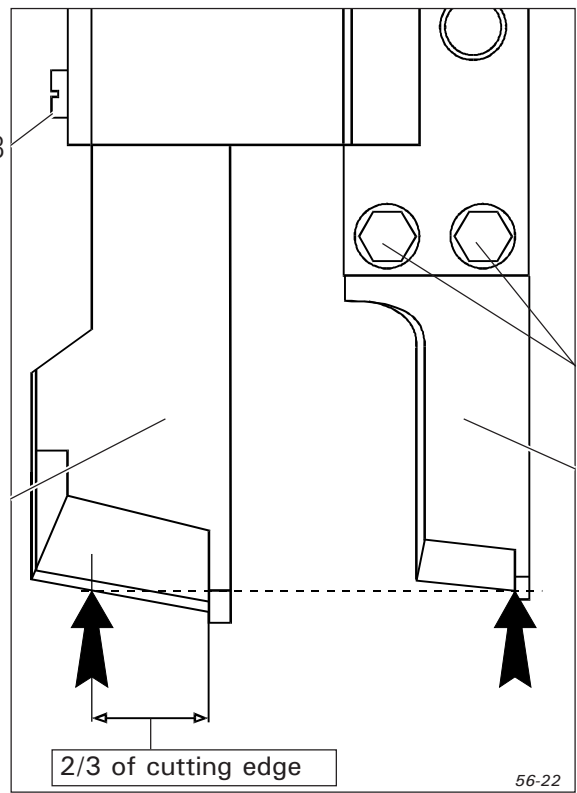
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KAP33-02

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56-22

21

57.11 Basic adjustments on the top knife mounting

Note: The following adjustment must only be carried out when

- a new knife mounting has been fitted (replacement)
- the adjustments on the existing mounting have been changed.

Adjustment of top knife mounting are made with the latter fitted in the machine.

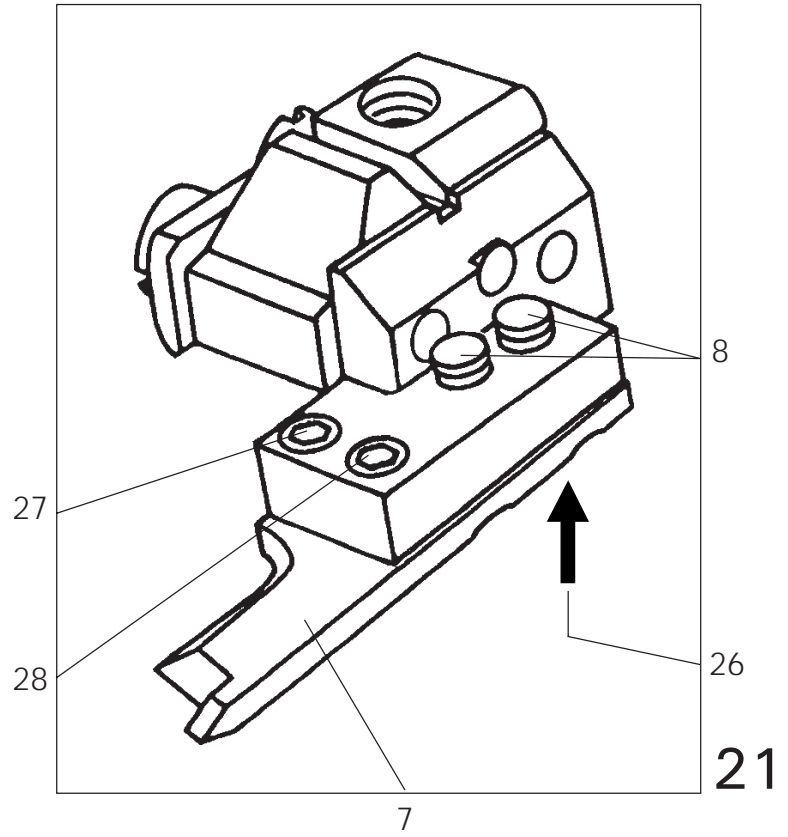
57.11.1 Cutting angle of the rear top knife

Requirement: Rear top knife 7 must be at a diagonal of 0.05 to 0.1 mm in relation to hook knife 20 (cutting angle).

Note: Adjustment is made on three allen screws; allen screw 26 is only accessible when rear top knife 7 has been removed.

- .1 Remove top knife 7.
- .2 Unscrew screws 26 and 27 just enough that they protrude by about 0.2 mm on the side of the top knife on which rear top knife 7 is afterwards fitted.
- .3 Cement in screws 26 and 27.
- .4 Screw on rear top knife 7.
- .5 Turn screw 28 in so that it is against the rear top knife, then cement it in.
- .6 Check cutting and cutting width.

Angle correction: remove rear top knife, then turn screw 26.



58 Airblast for ply separation (only on 3822-1/04)

Requirement: The fabric plies must be separated enough to allow hook knife 1 (Fig. 1) to pass reliably between the top and bottom plies.

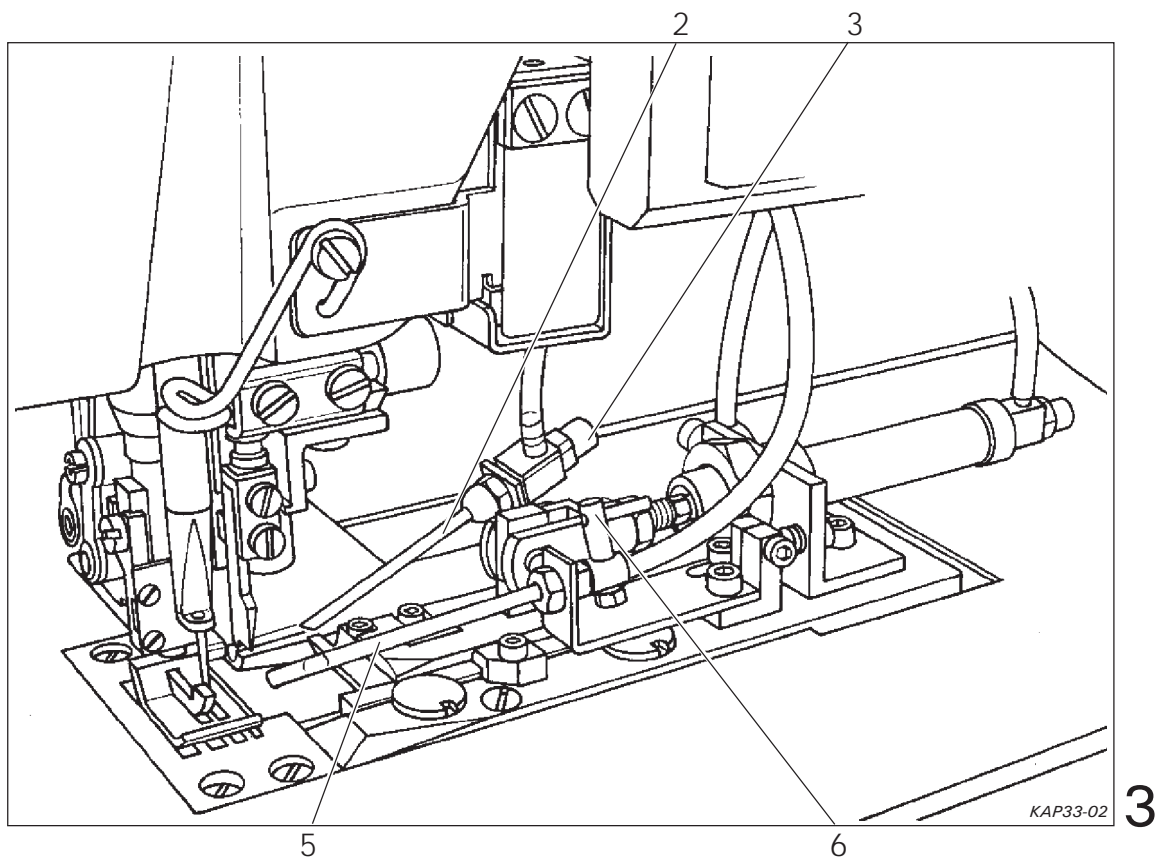
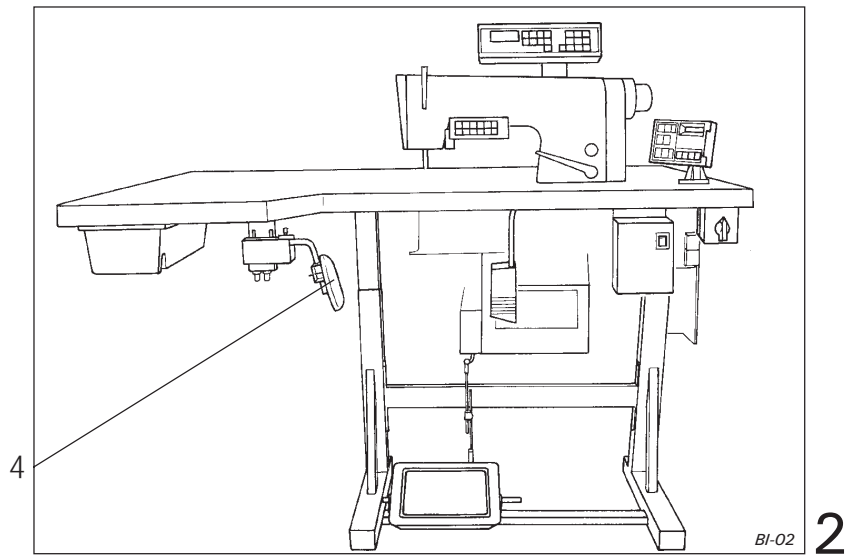
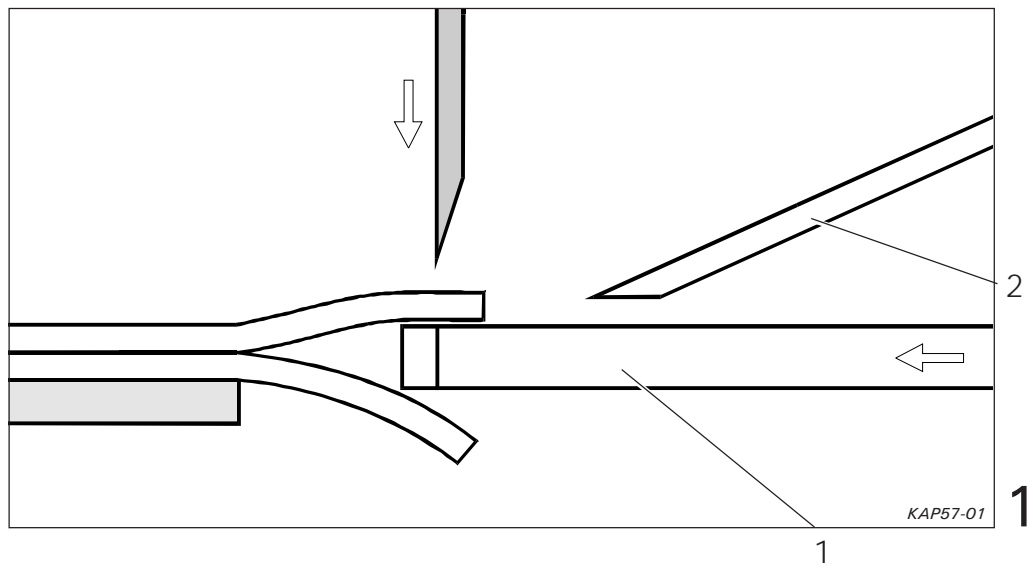
- .1 Set airblast 2 according to requirement.
- .2 Air pressure regulation on throttle valve 3 (Fig. 3).
- .3 Check: switch on airblast, knee switch 4 (Fig. 29).

59 Airblast for cutting waste (only on 3822-1/04)

Requirement: The cutting waste must be reliably extracted into the waste chute.

- .1 Set airblast 5 according to requirement.
- .2 Air pressure regulation on regulator 6.

Note: Airblast only works during sewing action!




60 Top feed quick-adjustment

60.1 Setting the reference point

.1 Loosen crank 1 (Fig. 1, screw 2).

.2  Switch on machine !

.3 Press key  (Fig. 2) (LED on).


.4 Press key 
- Stepping motor 3 (Fig. 1) moves to its rear end position (end position determined by sensor)

Requirement: When stepping motor 3 is in its rear end position, pressure sleeve 4 must stand back from the rear stop position by about a quarter of a turn (pressure sleeve must not jam on motor).

.5 Position sensor 5 (screw 6) so that stepping motor 3 is switched off well before the stop position is reached.

.6 Fit link 7.

.7 Set stitch length " 2.5" .

.8 Press key  (Fig. 2).
- Stepping motor 3 (Fig. 1) moves to middle position (neutral).



.9 Set crank 1 at a clearance of 0.5 mm from pressure sleeve 4 and secure it (screw 2).


.10 Set fullness (see chapter 21)

Display:

FULLNESS :	0
POSITION :	350

Standard works' setting
Standard setting according
to table on page 20.

.11 Correction: keys  and .

.12 Finish adjustment: key  off (LED off).

.13 Remove link 7 (must be easily removable).

Note: Input the other fullness amounts according to chapter 21.

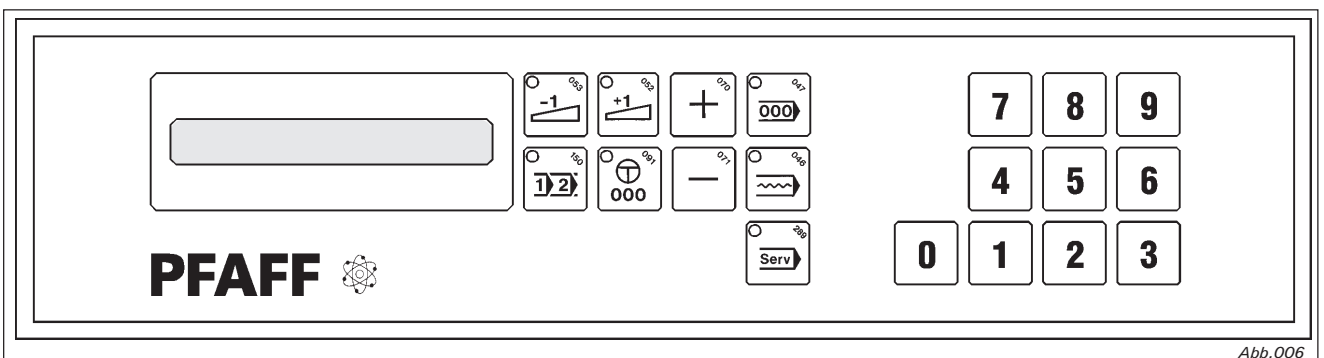
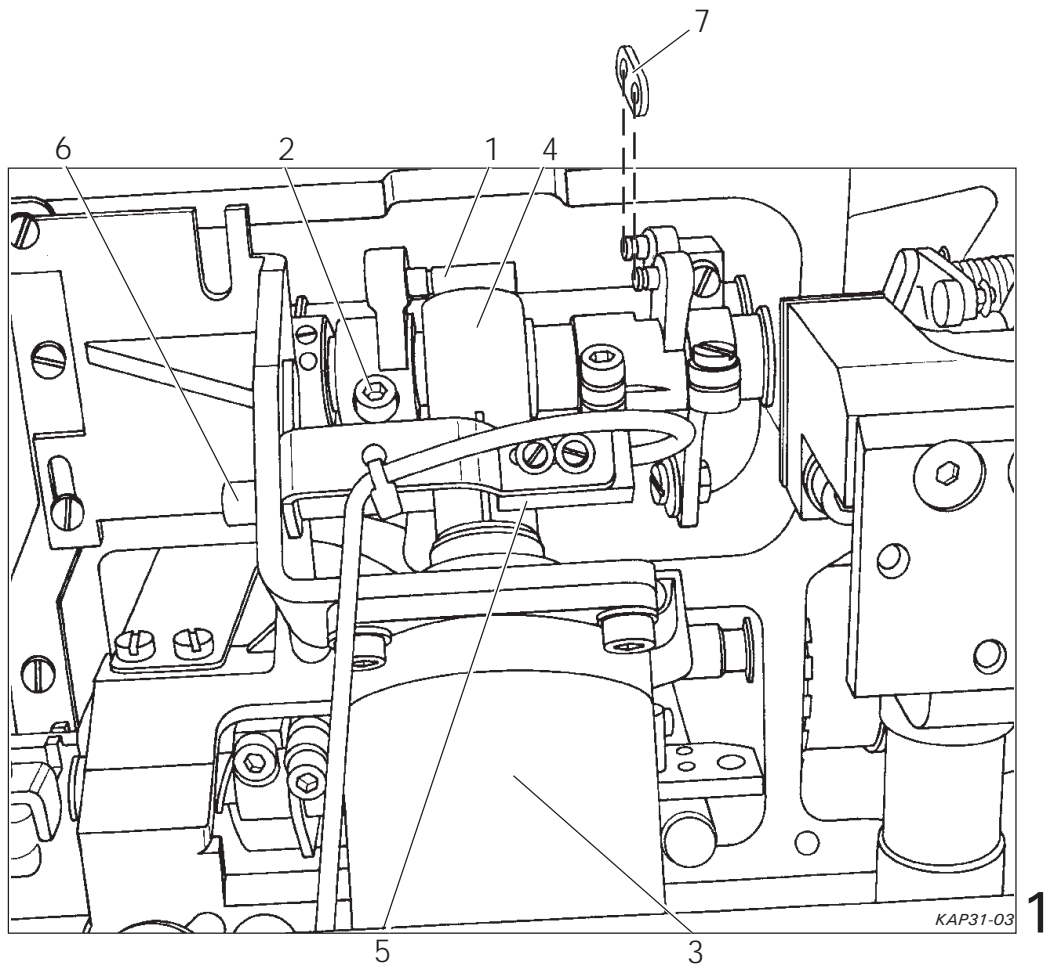


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61 Care and maintenance

61.1 The sewing machine

61.1.1 Oiling the sewing machine

- .1 Min. and max. oil levels: see Fig. 1.
- .2 If necessary, top up oil (hole 1, see chapter 61.3)

61.1.2 Cleaning the sewing machine.

- .1 The intervals for cleaning the sewing machine depend on the following factors:
 - Single or multi-shift operation
 - Amount of sewing lint
 - Continuous- or intermittent high-speed operation

Optimum cleaning instructions can therefore only be stipulated for each individual case, in cooperation with the internal maintenance staff and authorized service personnel, under consideration of the above-mentioned factors and the corresponding operating manual.

- .2 In order to avoid disturbances, we recommend the following cleaning intervals:
 - Entire unit, at least once a week
 - Hook area, at least once a day

61.2 Air filter/lubricator

Check daily.

.1 Oil optic

For max. and min. oil levels, see Fig. 2.

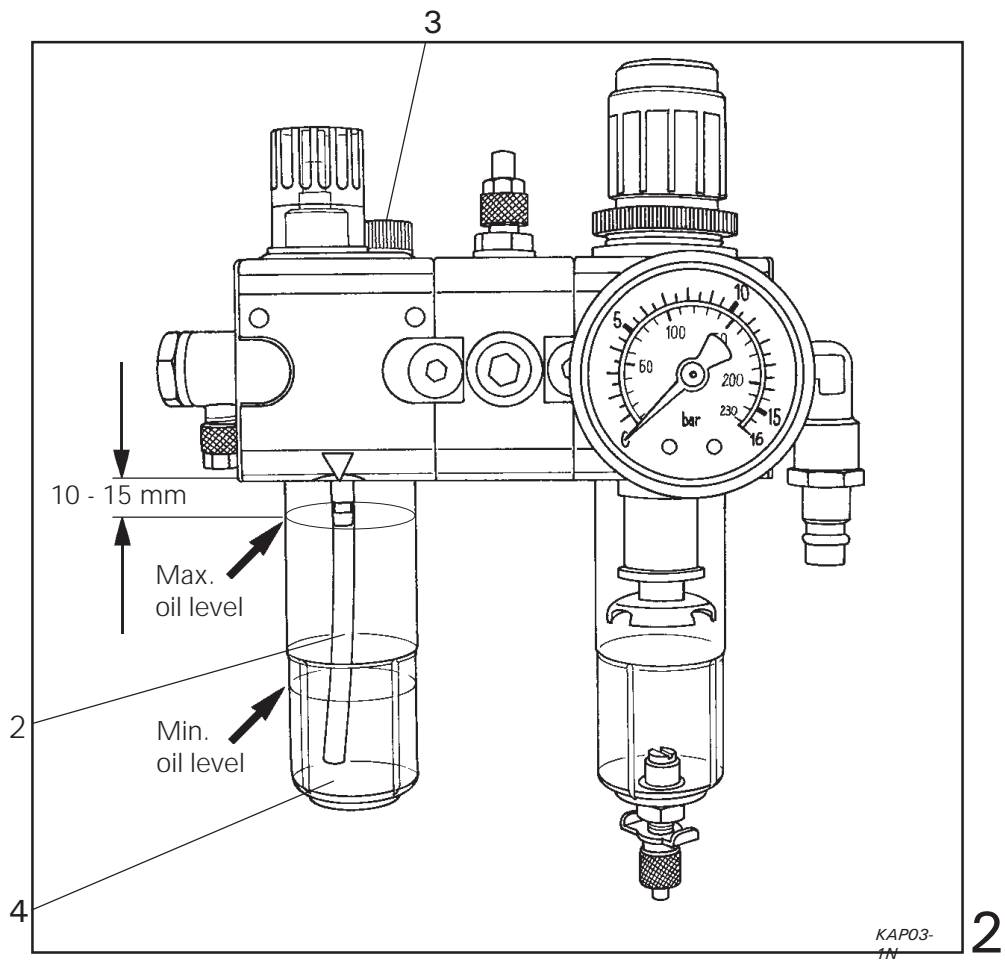
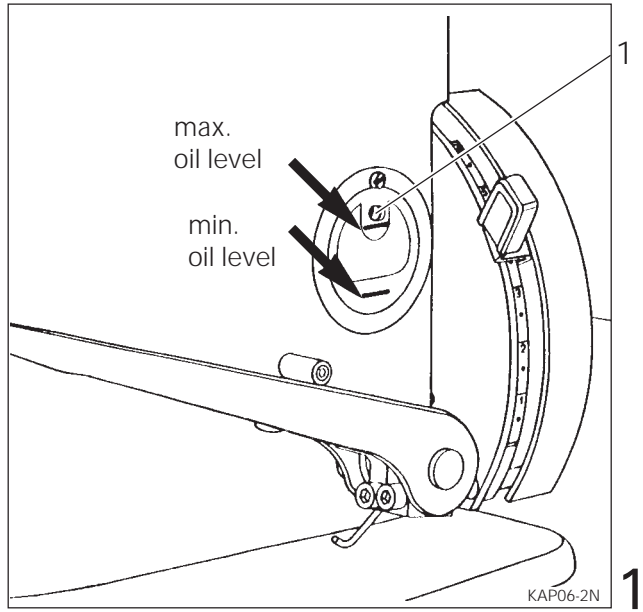


Suction tube 2 must always be immersed in oil!

If necessary, top up oil (see chapter 11.3.2) (screw 3).



- .1 Before topping up oil, disconnect compressed air.
- .2 Check bowl 4 for soiling (sediment).
- .3 If necessary, remove bowl and clean with petroleum.
- .4 Re-fit bowl (ensure that seal is properly seated).
- .5 Top up oil (screw 3).
- .6 Re-connect compressed air.



.2 Water trap bowl

For max. water level see Fig. 3

- .1 Empty bowl 5 daily (drain screw 6).

.3 Air filter

Note: Clean filter when working pressure of 6 bar is no longer achieved.

- .1 Disconnect compressed air.
- .2 Remove bowl 5.
- .3 Unscrew washer 7.
- .4 Take out filter 8
- .5 Clean filter and bowl with petroleum.
- .6 Blow filter out **from the inside** with compressed air.
- .7 When re-fitting, check for correct seal seat.
- .8 Re-connect compressed air.

.4 Drip rate of oil vaporizer

Note: Set the drip rate so that sufficient lubrication of the cylinders and valves is ensured
1 drop of oil every 100 work cycles.

- .1 Adjustment on regulating screw 9.

.5 Cleaning the oil jet (Fig. 3.1)

- .1 Disconnect the compressed air.
- .2 Fully unscrew regulating screw 9.
- .3 Unscrew oil jet 10 and blow out with compressed air as shown by arrow.
- .4 When re-fitting, check for correct seal seat.
- .5 Re-connect compressed air and re-adjust drip rate.

61.3 Recommended lubricants

.1 Sewing machine

Pfaff oil, part No. 280-1-120144, or an oil with a medium viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³

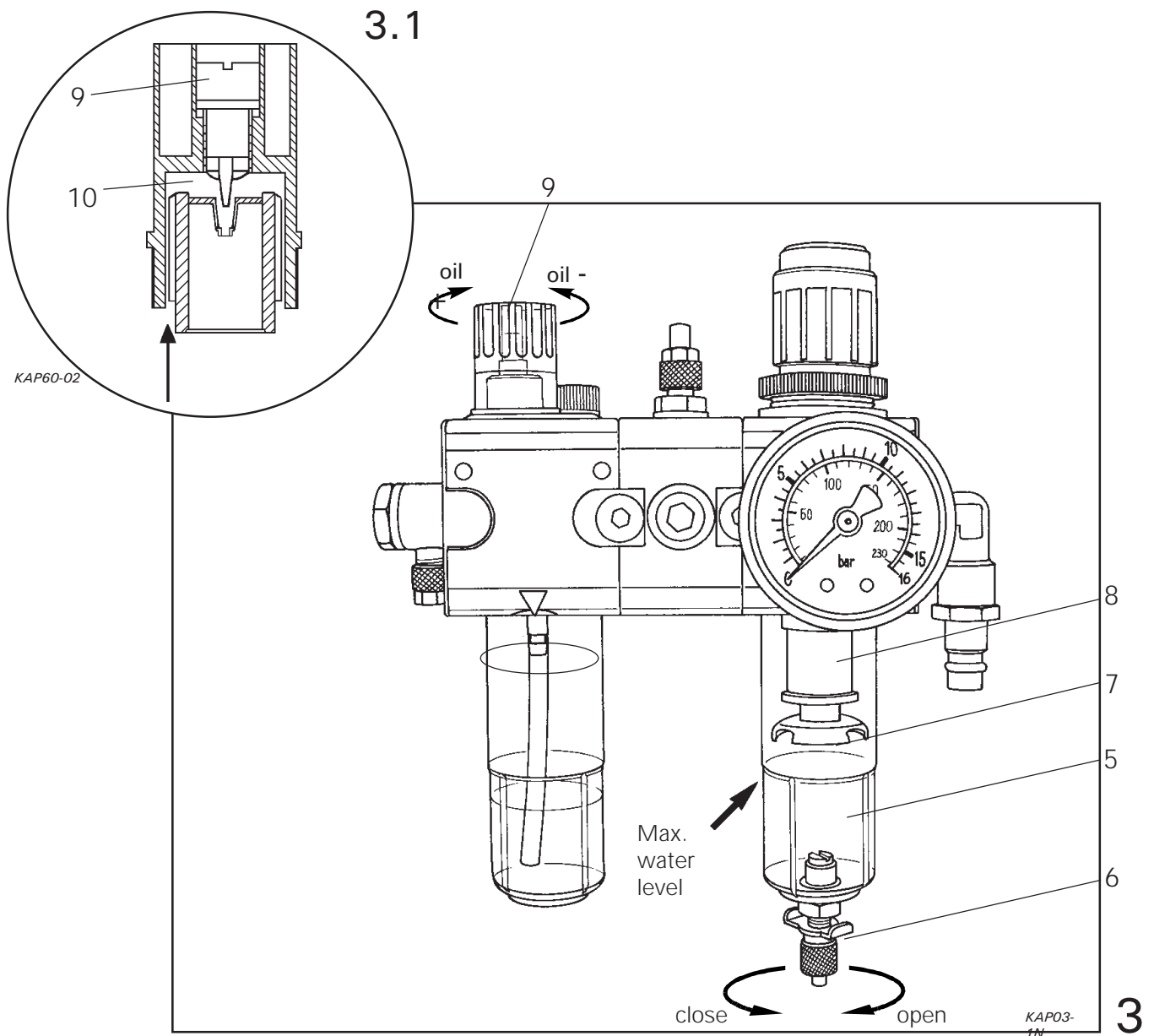
.2 Air filter/lubricator

Pfaff oil, part No. 280-1-120144, or an oil with a medium viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³, or an oil with the following properties:

Medium viscosity of 22.0 to 46.0 mm²/s at 40°C and a density of 0.865 to 0.875 g/cm³.



The oils used must have little or no effect on swelling or shrinkage of the sealing materials used under different operating conditions.



PFAFF

**G.M. PFAFF
Aktiengesellschaft**

Postfach 3020
D-67653 Kaiserslautern

Königstr. 154
D-67655 Kaiserslautern

Telefon: (0631) 200-0
Telefax: (0631) 172 02
Telex: 45753 PFAFF D

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