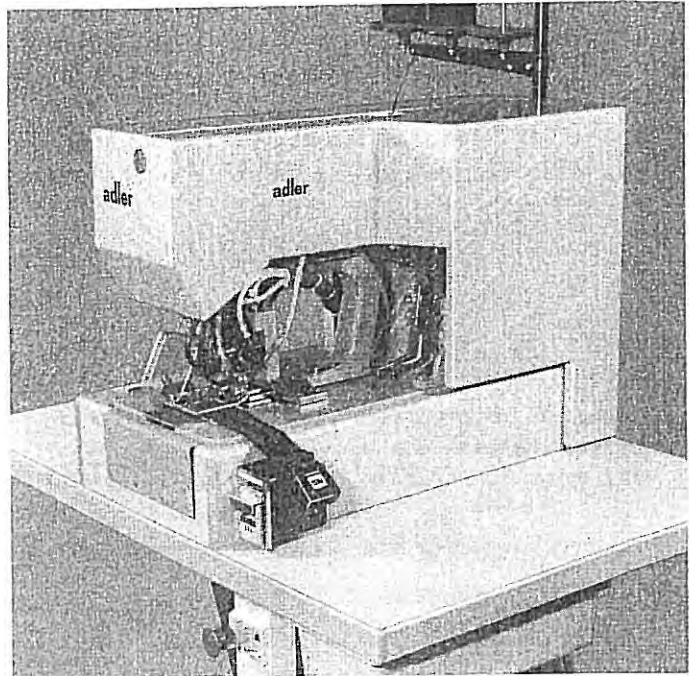




504



Operating Instructions
Instructions for Mechanics

References and illustration

A functional element mentioned in the text gets a reference, e.g. "A" if it is illustrated in the appendix. The supplement of the reference, consisting of a fraction stroke and of a figure, e.g. A/8, indicates the respective illustration 8 in the appendix. In case of several illustrations, the respective figures with fraction strokes are added.

An electrical or pneumatic functional element bears in all technical documentation (e.g. plan of electrical or pneumatics system) the same reference (e.g. "a1" or "24.2") as that in the text, preceding the fraction stroke. In the attached illustration this reference stands in a circle.

Switch off the machine, if you have to operate in the motion area of function-elements (Sewing head, feeding-device, clamping table etc.).

Otherwise there could be danger of an accident!

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Instructions for operators

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1. Operating and functional elements

1.1 Operating and functional elements on the sewing machine

A/1	Valve for needle-cooling (special equipment)
B/1	Screws for setting the clamp pressure
A/3	Key "Stop"
B/3	Needle thread tension
C/3	Mechanical thread tension release
D/3	Check spring
E/3	Thread restrainer
F/3	Thread positioner
G/3	Upper burning device
G/14	Lower burning device
H/3	Arresting lever for the upper burning device
J/3	Knurled screw for setting the height of the burning device
K/3	Eye guard
L/3	Needle cooling
A/6	Barrel shuttle
B/6	Releasing pin for swinging out the bobbin case
N/3	Knurled sleeve for setting the spring pressure of the clamp lifting lever
A/2	Pneumatical thread tension release
B/2	Thread pulling device
b4/2	Switch "Clamp closed"
D/2	Inner switching disc
E/2	Outer switching disc
F/2	Switching lever for outer switch disc
G/2	Switching lever for inner switch disc
H/2	Latch
b5/2	Switch "Machine in take up lever top position"
b6/2	Switch "Switching off the motor"
L/2	Cylinder for swinging out the switching lever
C/2	Stop lever

1.2 Operating and functional elements on the stand

A/7	Main switch
A/5	Stop-valve
B/7	Right foot key "Clamp closes/opens"
C/7	Left foot key "Start sewing machine"
D/7	Filter and air pressure regulator
E/7	Atomizer
A/4	Bobbin winder
F/7	Transformer with potentiometer for setting the voltage on the burning device
G/7	Cylinder for clamp lifting
H/17	Motor
B/5	Switch box
D/6	Bobbin thread counter (special equipment)

2. Machine cycle

2.1 Switching on the machine

Operation sequence	Remarks
Preconditions: - Both switching levers F, G/2 in the cut-out of the switching disc - Machine in take up lever top position	This is checked by switch b6/2 which has to be free This is checked by switch b5/2 which has to be pressed
1. Open the stop-valve A/5	
2. Switch main switch A/7 on	Die clamp opens and the lamp in the Stop-key A/3 is on.

2.2 Starting the automatic cycle

Operation sequence	Remarks
Preconditions: - Machine switched on	
1. Press right foot key B/7	- Clamp closes - Switch b4/2 pressed (The clamp opens when the foot key is pressed again)
2. Press left foot key C/7	- Switching lever F, G/2 lowers - Switch b5/2 free and switch b6/2 pressed - Burner heating and sewing machine On

2.3 Automatic cycle

Operation sequence	Remarks
Preconditions: - Automatical cycle started with the left foot key	The burner heating is on and the sewing machine runs.
1. <u>Appr. 1 1/4 revolution before end position:</u> - Switching lever F/2 falls into the cut-out of the outer switching disc E/2 - Switch b6/2 free - Motor off - Burner heating off	The sewing machine goes on running
2. <u>Appr. 3/4 revolution before the end position:</u> - Switching lever G/2 falls into the cut-out of the inner switching disc D/2 - Stop lever C/2 falls against the arresting cam of the pulley	
3. <u>In the take up lever top position:</u> - Stop lever stops the sewing machine - Switch b5/2 pressed - Thread pulling device B/2 moves forward - Thread tension B/3 opens - Thread positioner F/3 moves forward - 230 msec. after pressing b5: - Burning device moves forward - 720-1330 msec. after pressing b5: - Burning device moves backwards - Thread positioner F/3 moves backwards - After the burning operation: - Clamp opens	Lever falls into the cut-out of the arresting cam. for 50 msec. for 50 msec. According to the setting of the potentiometer r1/10 in the switch box

2.4 Interrupting the automatical cycle

Operation sequence	Remarks
1. Press key "Stop"	The sewing stops after a short delay time.
2. Press left foot key	The automatical cycle is continued.

2.5 Switching the machine off

Operation sequence	Remarks
1. Turn main switch off	Only when the cam is in the home position. The clamp closes and the lamp in the Stop-key is off.
2. Close stop-valve	

3. Operating the sewing machine

3.1 Threading plan

- Thread the needle thread as shown in fig. 8

3.2 Winding the bobbin thread

- Attach empty bobbin to the spooler shaft
- Pull the thread through the holes of the reel stand and between the pre-tensioning discs A/9.
Then pull the thread through the holes at the spooler and wind some thread on the bobbin
- Press with the lever B/4 the spooler against the belt
- Let the machine run
The spooler is switches off when the bobbin is full

3.3 Changing the bobbin

- Take care, that the bobbin can be changed only in take up lever top position
- Press releasing pin B/6 for swinging out the bobbin case
- Remove empty bobbin
- Insert full bobbin into the case
Take care, that the bobbin turns anti-clockwise when the thread is pulled (fig. 11)
- Swing bobbin case in, pull the thread through the slot and under the spring and pull out the thread for about 5 cm

3.4 Adjusting the needle thread tension

- Adjust the tension according to the seam pattern
- For correction, turn the knurled nut on thread tension B/3 accordingly

3.5 Adjusting the bobbin thread tension

- Adjust the tension according to the seam pattern
- For correction, loosen the arresting screw C/12 and turn the setting screw d/12 accordingly
(The arresting screw has to be tightened again after the correction)

3.6 Changing the needle

- Change only the needle when the machine is switched off.
Align the needle with the scarf to the hook, slide the needle up to the stop and tighten the screw.

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1. Technical data

Needle system	: 328 or 328 A
Needle size for system 328	Nm: 120 - 230
Needle size for system 328 A	Nm: 200
Thickness of synthetic thread	Nm: 30/3 - 11/3
Max. clamp stroke	: 16 mm
Stitches per one cam revolution	: 42, 58, 72 (without supplement gear) 84, 116, 144 (with supplement gear)
Stitches/ minute	: 920

2. Installing the machine

- Components supplied:
 - Stand with motor and switch box
 - Sewing machine
 - Sewing machine bed
 - Sewing machine housing
 - Reel stand
 - Foot key
 - Spooler
 - Small parts in the accessories
- Mount all parts
- Attach belt
- Connect machine electrically and pneumatically
(Note the data on the type plate)
- Check direction of rotation on the motor
(See "Switching on the machine" in the instructions for operators)
- Conduct sewing test with material

3. Sewing machine

3.1 Barrel shuttle, needle bar

3.1.1 Distance between driver and needle

- The oscillating driver A/13 moves the barrel shuttle B/13 in the basket E/14
- The needle protection D/13, 20 on the driver should have a distance of 0,2 mm to the needle
- For checking
 1. Remove barrel shuttle B/13
 2. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 3. Turn pulley on the arm shaft until the distance can be checked
- *For correction, loosen the screws a, b/14 and slide axially the driving shaft A/14*
Note following:
 1. *Don't turn the driving shaft*
(Otherwise the loop stroke is changed)
 2. *Press setting ring B/14 and the block C/14 against the bushing D/14 for fixing the shaft in the axial direction*

3.1.2 Loop stroke

- The loop stroke is the way of the needle bar from the lower death point up to the point, when the point of the hook is in line with the right needle side
- The loop stroke should amount to 5 mm
- For checking
 1. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 2. Move the needle bar to its lowest position
 3. By means of the block A/15 (Part-No. 981 15 000 6) press the gauge B/15 (Part-No. 981 15 001 2) against the casting and tighten the screw on the block
 4. Remove gauge B/15
 5. Turn pulley on the arm shaft in the direction of rotation until the block rests on the casting
 6. Press the barrel shuttle B/13 against the long driver finger E/13
 7. Check, whether the point of the hook is in line with the right needle side (fig. 21)
- *For correction, loosen the screw a/14 and turn the driving shaft A/14 accordingly*

3.1.3 Needle bar height

- The needle eye should be below the point of the hook, when the point of the hook is 1 mm to the right of the needle (fig. 22)
- For checking
 1. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 2. Turn pulley on the arm shaft in the direction of rotation until the point of the hook is 1 mm to the right of the needle
(The barrel shuttle B/13 has to rest on the long driver finger E/13)
 3. Check, whether the upper edge of the needle eye is in line with the lower edge of the hook point (fig. 22)
- *For correction, loosen the screws a/15 and shift the needle bar accordingly*

3.1.4 Distance between hook point and needle

- The distance between the hook point and the scarf of the needle should amount to 0,1 mm (fig. 23)
- For checking
 1. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 2. Turn pulley on the arm shaft until the distance can be checked
- *For correction, loosen the screws c/14 and slide the basket E/14 accordingly (Take care, that the upper flat of the basket is parallel to the stitch plate)*
- In the case of a needle size change from one group to another the distance between needle and hook point varies (see 3.1.6)

3.1.5 Timing of the driver motion

- The timing of the driver motion is determined by the journal in the arm shaft

3.1.6 Needle bar change

- The needle bar has to be changed, when a needle with a different shaft size is employed.

Needle size	Shaft - Diameter	
	Typ 328	Typ 328 A
140	2	
150	2	
160	2,3	
170	2,3	
180	2,3	
200	2,5	2,3
210	2,5	
220	2,5	
230	2,5	

3.1.7 Nozzle for the lubrication of the barrel shuttle

- The exhausted air of the clamp cylinder is blown through the nozzle F/14 when the clamp opens and closes. The oil in the air lubricates the barrel shuttle.

3.2 Clamp

3.2.1 General information

- The clamp can be alternately opened and closed with the right foot switch, when the machine is in the home position
The clamp opens automatically after the burning operation.
- The switch b4/2 has to be operated after the clamp has closed.
Otherwise the sewing cycle can't be started.
- When the clamp is opened the thread tension is released at the same time

3.2.2 Pressure of the closed clamp

- The clamp should securely hold the material during the sewing cycle.
Furthermore there should be no impressions on the material
- *For correction, turn the setting screws B/1 accordingly*
Increasing the pressure - turn setting screw clockwise
Decreasing the pressure - turn setting screw anti-clockwise
- A wrong setting can cause skipped stitches, needle breakage, "missplaced tack" and impressions an the material.

3.2.3 Position of the lifting lever

- The distance between the lifting lever A/18 and the both bolts B/18 should amount to 2 mm, when there is no material under the closed clamp
- For correction, loosen the screws b/15 and shift the lever accordingly

3.2.4 Position of the opened clamp

- The opened clamp should be to 2-4 mm above the inserted material
(The clamp can be lifted from the stitch plate up to 16 mm)
- *For correction, loosen the counter nut a/19 and turn the stop sleeve A/19 accordingly*

3.2.5 Position of the clamp to the needle

- The clamp should have the same minimum distance of 0,3 mm to the needle over the whole tack
- For checking
 1. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 2. Turn pulley in direction of rotation and trace the whole tack
- *For correcting variing distances (fig. 16)*
In X-direction: Loosen nut a/17 and change the position of the lever A/17
In Y-direction: Loosen nut b/17 and change the position of the lever B/17
For correcting the minimum distance: (fig. 16)
In X-direction: Loosen nut d/14 and slide the guide way
In Y-direction: Loosen nut e/14 and slide the guide way
- A wrong adjustment can cause skipped stitches and needle breakage.

3.2.6 Timing of the clamp transport

- The timing of the transport is determined by the position of the cam on the worm wheel shaft
The slot on the outer side of the cam moves the clamp in X-direction. The slot on the inner side of the cam moves the clamp in Y-direction (fig. 16)
- The transport should be just finished, when the needle enters into the material.
(With particularly thick material the transport of the clamp begins already before the needle leaves the material.)
- For checking:
 1. Arrest both switch levers F, G/2 in the lower position with the latch H/2
 2. Turn pulley on the arm shaft and observe the transport
- *For correction*
Loosen nut a/1 and screws b/1. hold the cam and turn the pulley accordingly
- After the correction
Check the position of both switch discs D, E/2
- A wrong setting can cause needle breakage.

3.3 Cam

- The clamp is driven in X-direction by the slot in the outer side of the cam. The slot in the inner side of the cam moves the clamp in Y-direction.
- The cam is in the home-position, when the hole A/25 in the slot is half covered by the guiding roll B/25
- Machines without supplement gear can sew 42, 58 and 72 stitches per one revolution of the cam according to the ratio of the worm gear.
Machines with supplement gear can sew the double amount of stitches: 84, 116, and 144.
This number of stitches is marked on the cam as follows:
42 = 4, 58 = 5, 72 = 7, 84 = 8, 116 = 11, 144 = 14.
All the other numbers on the cam indicate the number of the tack
A number of e.g. 1114 has following meaning:
11 = 116 stitches, 14 = number of the tack
- The prospect has following information:
 1. Position of the start and end stitches
 2. Number of the "overstitches"
 3. Loading direction of the material
- The position of the cam on the shaft determines the timing of the clamp transport.
This adjustment is described in theme 3.2.5.
- The valve D/17 is not actuated, when the cam is in the home position. The valve is pressed and the needle cooling is activated during the sewing cycle.
- The switching discs are rotated twice per sewing cycle, when the machine has a supplement gear. The tappet A/26 on the cam blocks the mechanism so that the switch lever can't be engaged after one rotation of the switching disc.

3.4 Worm gear play

- The play between worm A/28 and the worm wheel B/28 should be as small as possible
- For checking turn the cam clockwise and anti-clockwise (You must be able to feel the play.)
- *For correction loosen the screws a/28 and slide the conical worm A/28 in the axial direction (First screw - seeing in direction of sewing - has to rest on the flat of the shaft.)*
- After the correction
 1. Check the timing of the clamp transport (see 3.2.6)
 2. Check the position of both switching discs (see 4.2 and 4.3)

3.5 Thread pulling device

- The thread pulling device A/30 should pull a bit more thread than the thread positioner F/3 needs for its function
- *For correction change the position of the thread guide B/28 to the thread pulling device (The larger the distance between the two guides the less thread is pulled)*
- The thread can't be melted during the burning operation when the thread pulling device doesn't pull enough thread

3.6 Thread tension release

- The thread tension is released by cylinder D/24 for a short time after the sewing cycle, so that the thread pulling device B/2 can pull the needed amount of thread.
The thread tension is mechanically released when the clamp opens
- The retracted piston rod A/24 of the cylinder should have a distance of appr. 0,5 mm to the pin B/24.

3.7 Check spring

3.7.1 Stroke of the spring:

- The stroke of the spring should amount to 8 mm
(Then the spring just rests on the stop when the needle eye dips into the material)
- *For correction, loosen the screw a/30 accordingly and shift the stop C/30 accordingly*

3.7.2 Spring tension

- The spring should hold the thread tight until the needle eye dips into the material
The correct spring tension depends on the material to be sewn
- *For correction loosen the screw b/25 and turn the bolt c/30 accordingly*

3.8 Tension of the belt

- The sewing machine has to be moved softly to the end position.
- Therefore the tension of the belt should not be too strong.
- For correction change the position of the motor H/7 accordingly

3.9 Needle cooling

- The needle cooling L/3 is operated during the sewing cycle
- The air stream should be directed with the respective intensity to the needle
(The air stream should never be directed to the burning device)
- For checking stop the machine during the sewing cycle and observe the intensity and direction of the air stream
- For correction change the position of the nozzle accordingly and set the throttle K/7 accordingly.

3.10 Thread blower

- The thread blower is activated by the exhausted air of the clamp cylinder when the clamp opens and closes
- The thread blower should position the thread above the open clamp
(Then the closing clamp can't catch the thread. So the thread is always positioned on the bottom side.)
- For correction change the position of the thread blower accordingly.

3.11 Oil lubrication

- Lubricate all marked points (fig. 32) with 1 - 2 drops of oil daily.
Use oil "ESSO MILLCOT K 68" (Part-No. 990 47 012 7) or an other oil with following features:

Viscosity at 40° : 65 mm²/s

Flash point : 212° C

4. Stop device

4.1 General information

- The stop device switches the motor off and positions the machine at the take up lever top position.

This process has following sequence:

1. Appr. 1 1/4 revolution before the end position:
 - The switch lever B/19 falls into the cut-out of the outer switching disc E/19
 - The switch b6/19 is free and switches off the motor
(The machine goes on running because of the kinetic energy)
2. Appr. 3/4 revolution before the end position:
 - The switch lever C/19 falls into the cut-out of the inner switching disc F/19
 - The stop lever G/19 falls against the arresting cam on the inner side of the pulley
3. In the take up lever top position:
 - The stop lever falls into the cut-out of the arresting cam and stops the machine
 - The switch b5/19 is pressed and releases the burning process.

4.2 Position of the outer switching disc

- The motor is switched off, when the switch lever B/19 falls into the cut-out of the switching disc
- The sewing machine should run softly to the end position
(This is normally achieved, when the switch lever falls into the cut-out of the switching disc 1 1/4 revolution before the end position. This timing has to be different only in the case of especially thick or thin material).
- For checking the timing:
 1. Move cam to home position
(The guiding roll B/25 must half cover the hole A/25 in the slot)
 2. Arrest both switch levers B, C/19 in the lower position with the latch J/19
 3. Turn pulley clockwise
(Until both switch levers can't fall in)
 4. Let both switch levers rest on the switching disc
 5. Turn pulley in direction of rotation and observe the timing of the engagement
- For checking the "soft" run-in:
Let machine run with material and observe the machine running to the end position
- For pre-adjusting
 1. Move cam to the home position
 2. Loosen screw a/29 and set the outer switching disc A/29 so, that the distance is about 4 mm to the engaged switch lever
 3. If the position of the inner switching disc is also not correct:
Loosen screw and set the inner switching disc so, that the distance is 2 mm to engaged switch lever (fig. 29)
- *For correction*
Loosen the screw a/29 and turn the switching disc accordingly
- A wrong setting can have following effect:
 1. Sewing machine does not reach the end position
 2. Sewing machine does not move softly to the end position

4.3 Position of the inner switching disc

- The positioning is started, when the switch lever falls into the cut-out of the switching disc
- The switch lever should fall into cut-out of the switching disc 3/4 revolution before the end position
- For checking
 1. Move cam to starting position
(The guiding roll B/25 must half cover the hole A/25 in the groove)
 2. Arrest both switch levers B, C/19 in the lower position with the latch J/19
 3. Rotate pulley clockwise
(Until both switch levers can't be engaged)
 4. Let both switch levers rest on the switching discs
 5. Turn pulley in the direction of rotation and observe the timing of the engagement
- For pre-setting
 1. Move cam to the starting position
 2. Loosen screw a/29 and set the inner switching disc A/29 so, that the distance is 2 mm to the engaged switch lever
 3. If the position of the outer switching disc is also not correct: Loosen screw and set the inner switching disc so, that the distance is about 4 mm to the engaged switch lever (fig. 29)
- *For correction*
Loosen screw a/29 and turn the switching disc accordingly

4.4 Setting both switching discs

1. Move cam to starting position
2. Pre-adjust the setting disc
 - Set the outer switching disc so, that the distance is about 4 mm to the engaged switch lever (fig. 29)
 - Set the inner switching disc so, that the distance is about 2 mm to the engaged switch lever (fig. 29)
3. Checking the operation time:
 - Arrest both switch levers B, C/19 in the lower position with the latch J/19
 - Turn pulley clockwise
(Until both switch levers can't be engaged)
 - Turn pulley in direction of rotation and observe the timing of the engagement
Both switch levers should fall into the cut-out 1 1/4 revolution (outer switching disc) or one 3/4 revolution (inner switching disc) before the end position
4. If the operation time is not correct:
change the position of the switching disc accordingly
5. Check, whether the machine runs "softly" to the end position:
Let the machine run with material
6. If the machine doesn't move softly to the end position or doesn't reach the end position:
Change the position of the outer switching disc

4.5 Position of the stop lever

- The stop lever A/31 should stop the sewing machine in the take up lever top position
- The distance between the stop lever and the inner side of the pulley should be at least 0,3 mm, when the switch lever rests on the inner switching disc (fig. 31)
- For checking
 1. Arrest both switch levers B, C/19 in the lower position with the latch J/19
 2. Turn pulley clockwise
(Until both switch levers can't fall into the cut-out)
 3. Let both switch levers rest on the switching disc
 4. Turn pulley clockwise and check the distance
- For correction
*Loosen screw a/31 and swing the stop lever accordingly
(Press the stop lever laterally against the bush)*

4.6 Timing of the switch b6

- The switch b6/19 switches the motor on and off during the automatical cycle
- The distance between tappet K/19 and the switch should be 1 mm, when the switch lever is in the cut-out of the outer switching disc
- For correction change the position of the tappet K/19 accordingly

4.7 Timing of the switch b5

- The switch b5/19 releases the burning process after the sewing cycle
- The switch should be operated, when the stop lever G/19 is engaged at the inner side of the pulley
- For correction loosen the screws and change the position of the switch lever L/19 accordingly

4.8 Blocking device for the switch lever

- With machine including the supplement drive the switching discs are rotated twice for sewing one tack. The tappet A/26 on the cam blocks the mechanism, so that the switch lever cannot be engaged after only one revolution of the switching disc
- The distance between the switch levers B, C/19 and the switching discs E, F/19 should amount to about 0,3 mm, when the mechanism is blocked by the tappet
- For checking
Let the machine run, stop the machine in the tappet area and find out the distance
- For correction
Loosen the screw a/26 and swing the lever B/26 accordingly

5. Burning device

5.1 General information

- The burning device should separate the needle and the bobbin thread. Furthermore the end of the needle thread should be melted, so that the thread can't be pulled through the material. Both requirements can only be fulfilled with synthetic thread. The length of the separated bobbin thread is about 5 mm according to the thickness of the stitch plate.

5.2 Thread positioner

5.2.1 Starting position of the thread positioner

- The thread positioner A/27 has to pull the thread in the correct position for the burning process
The thread should be wound just once around the roll tension M/3, so that the thread can be pulled easier.
- The thread positioner in its starting position should have a lateral distance of about 3 mm to the needle
(The piston rod stroke determines the position of the extended thread positioner)
- *For correction*
loosen the counter nut a/27 and turn the piston rod B/27 accordingly
(The wire can be bent also a bit)

5.2.2 Height of the thread positioner

- The thread positioner A/27 should move freely under the needle, when the machine is in take up lever top position
- *For correction*
Loosen the screw b/27 and shift the thread positioner accordingly

5.3 Upper burning device

5.3.1 Height of the burning device

- The fully extended burning device should have a distance of about 1 mm to the clamped material
- *For correction*
Loosen the arresting lever H/3 and change the height of the burning device with the knurled screw J/3

5.3.2 Position of the fully extended burning device

- The burning device A/33 should touch the thread with a slight pressure
(In no case the burning device should touch the clamp)
- For checking
 1. Position the material under the lifted clamp
 2. Close the clamp
 3. Pull out the card A/10 in the switch box
 4. Release the bar on the cylinder G/7 for the clamp lifting
 5. Sew a tack with the machine
 6. Close stop valve A/5 and exhaust the machine with the floating valve on the filter
 7. Check the setting
- For correction loosen the counter nut c/27 and turn the piston rod C/27 accordingly

5.3.3 Angle position of the burning device

- The burning device A/33 should stand at an angle of 90° to the positioned thread
- For checking proceed as described in theme 5.3.2
- For correction loosen the clamping screw d/27 and swing the burning device accordingly

5.3.4 Lateral position of the burning device

- The burning device should be central to the thread being positioned by the thread positioner
- For checking proceed as described in theme 5.3.2
- For correction
Loosen the clamping screw d/27 and change the position of the burning device accordingly

5.4 Lower burning device

5.4.1 Pre-conditions for the checking and adjustments

- The flat on the barrel shuttle basket E/14 should be parallel to the stitch plate

5.4.2 Distance between thread pulling device and burning device

- The distance between the thread pulling device A/34 and the burning device B/34 should be about 6 mm
- For correction loosen the screws a/34 and change the position of the thread pulling device A/34 accordingly

5.4.3 Position of the extended burning device

- The left side of the burning device A/35 should be in line with the outer edge of the stitch hole bush B/35
- For correction loosen the counter nut b/34 and turn the stop screw c/34 accordingly

5.4.4 Starting position of the burning device

- This position is determined when the piston rod of the cylinder is fully extended
(The thread pulling device is then outside the area of the stitch holder)

5.4.5 Height of the burning device

- The fully extended burning device should rest slightly on the stitch hole bush B/35
In the starting position the burning device should touch no part
- *For correction bend the burning device accordingly*

5.4.6 Height of the thread pulling device

- The thread pulling device should be positioned 2 mm lower than the burning device (fig. 35)
(Then the position of the thread supports the burning process)
- *For correction bend the thread pulling device accordingly*

5.4.7 Form of the thread pulling device wire

- The thread should be pulled through the narrowest passage of the wire C/34, when the thread pulling device extends.
The thread should be also taken, when the thread pulling device returns
(Then the bobbin thread is always in the same position, when the sewing cycle starts)
- *For checking pull the thread through the passage by hand*
- *For correction bend the wire accordingly*

5.5 Regulating the heating up and the operation time of the burning devices

5.5.1 Regulating the heating up

- The burning device is heated up during the whole sewing process. Therefore the shorter the tack is the smaller may be the burner voltage.
- The burning device should securely separate the thread with the lowest possible temperature
(Then the wear of the burning device is as small as possible)
- *For correction*
Turn the potentiometer on the transformer F/7 accordingly
Position 12 - max. heating up
Position 1 - smallest heating up

5.5.2 Regulating the operation time

- The burning device is for 0,5 - 1,1 sec. in the front position according to the setting of the potentiometer r1/10 in the switch box

6. Pneumatic unit

6.1 Compressed air filter and pressure reducing valve

6.1.1 Compressed air filter (fig. D/7)

- The filter separates water and impurities in the compressed air
- The plastic container is cleared by a valve, when the water has reached a certain level
- The filter element has to be cleaned by benzine or petroleum each 3 months
(A dirty filter element can cause pressure drop)

6.1.2 Pressure reducing valve (fig. D/7)

- The pressure reducing valve should reduce the pressure of the compressed air, supplied by the compressor, to 6 bar.
Note following in this case:
 1. The line pressure must be at least 1 bar higher
 2. A further valve has to be installed, if the line pressure exceeds 10 bar
- For correcting the pressure loosen the counter nut and turn the button accordingly

6.2 Atomizer (fig. E/7)

- The atomizer should lubricate all movable parts of the pneumatic system
- Not more than 1 drop should fall into the air stream per working cycle
Moreover the nozzle should be in position A
- For correcting the quantity of oil, turn the screw accordingly
- For replenishing the hydraulic oil "ESSO Nuto H 68"
(Part-No. 990 47 013 0) close stop valve, exhaust the pneumatic system and turn the screw out
- You can use also other oil with the following features:

Viscosity at 40°: 66 mm²/s

Flash point: 236° C

7. Maintenance plan

7.1 Daily

By means of the air gun remove fluff accumulation from the following parts:

- Needle thread guides and tensions
- Check spring
- Hook
- Lubricate the points as shown in fig. 32

7.2 Weekly (40 service hours)

- Check the function and the oil level of the atomizer

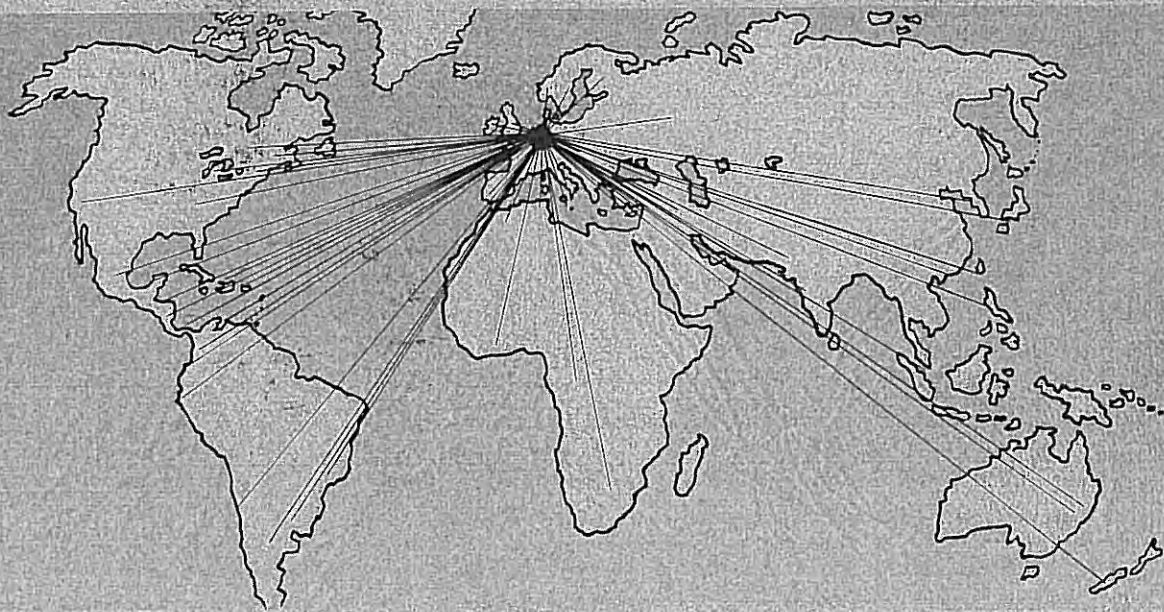
7.3 Monthly (160 service hours)

- Check tension and wear out of the belt

7.4 Every 3 months (500 service hours)

- Clean the element of the pneumatic filter
- Check tightness of the pneumatic system

Adler products for the whole world



Leaflets for the various types

Individual leaflets are available for the Adler sewing machines listed above containing detailed information about their application, equipment, special fittings, completing devices and technical data.

Attachments

We can offer a large number of attachments, most of which are listed in our catalogues. When making enquiries for detailed information, please send samples.

Sewing technology

Adler "Sewing Technology Reference" sheets inform you about the different operation methods available.

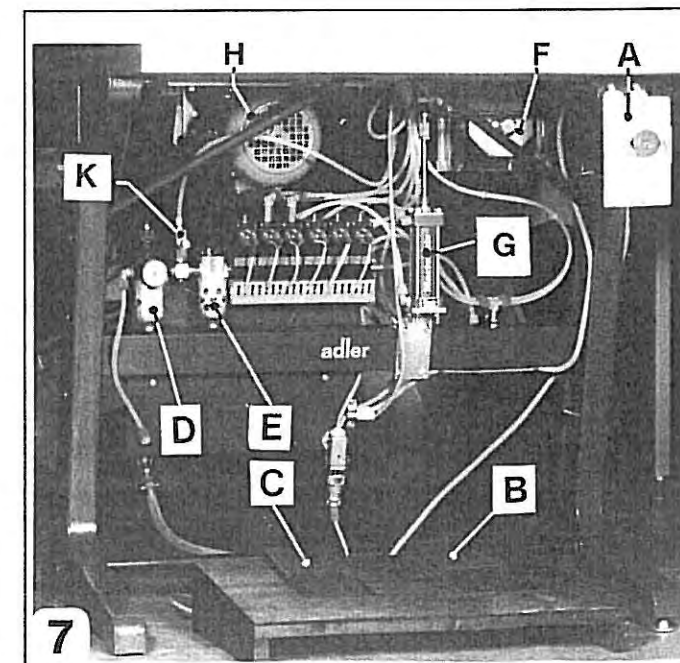
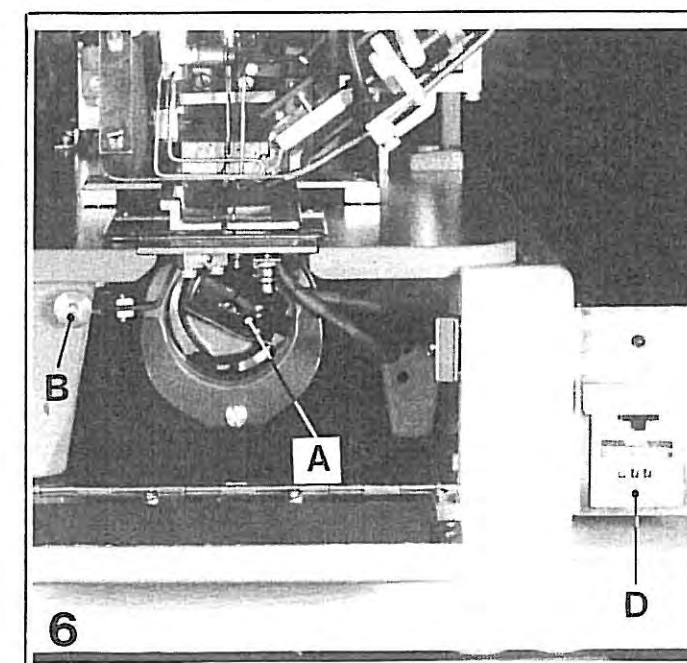
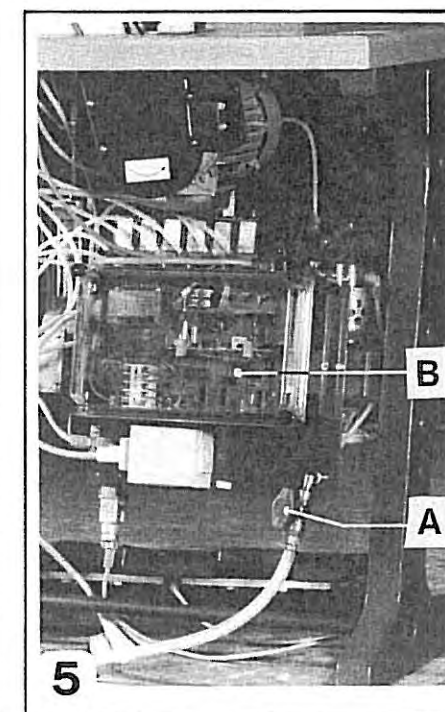
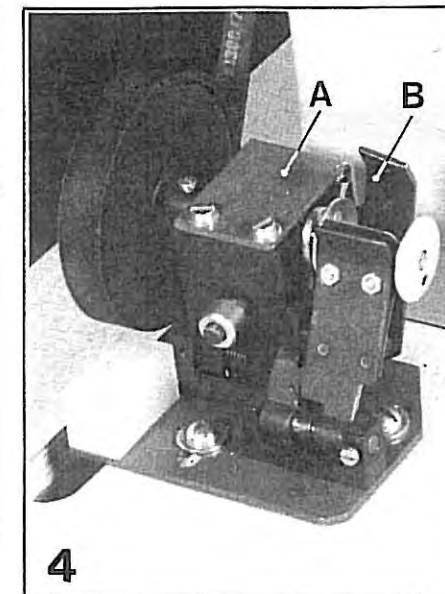
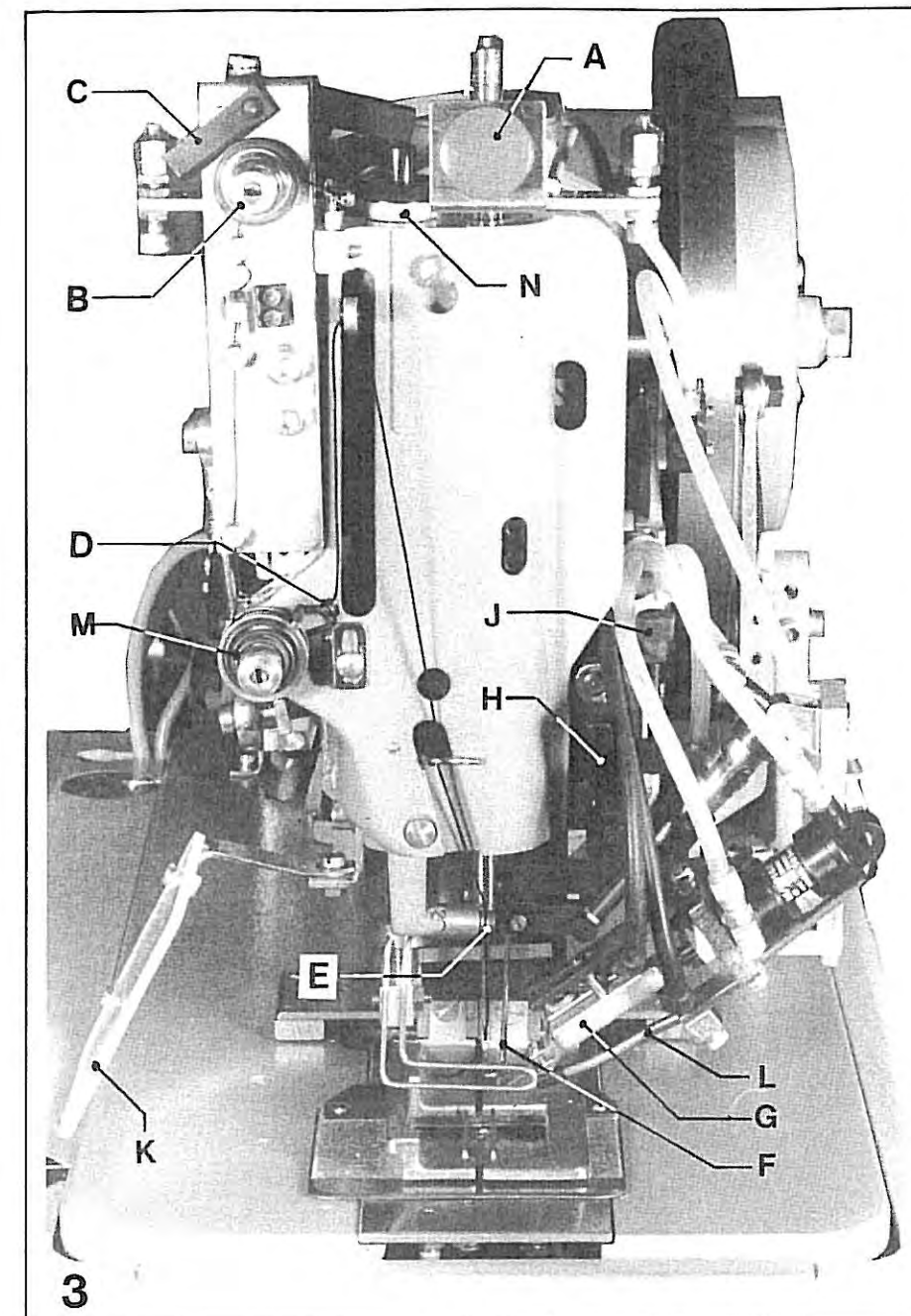
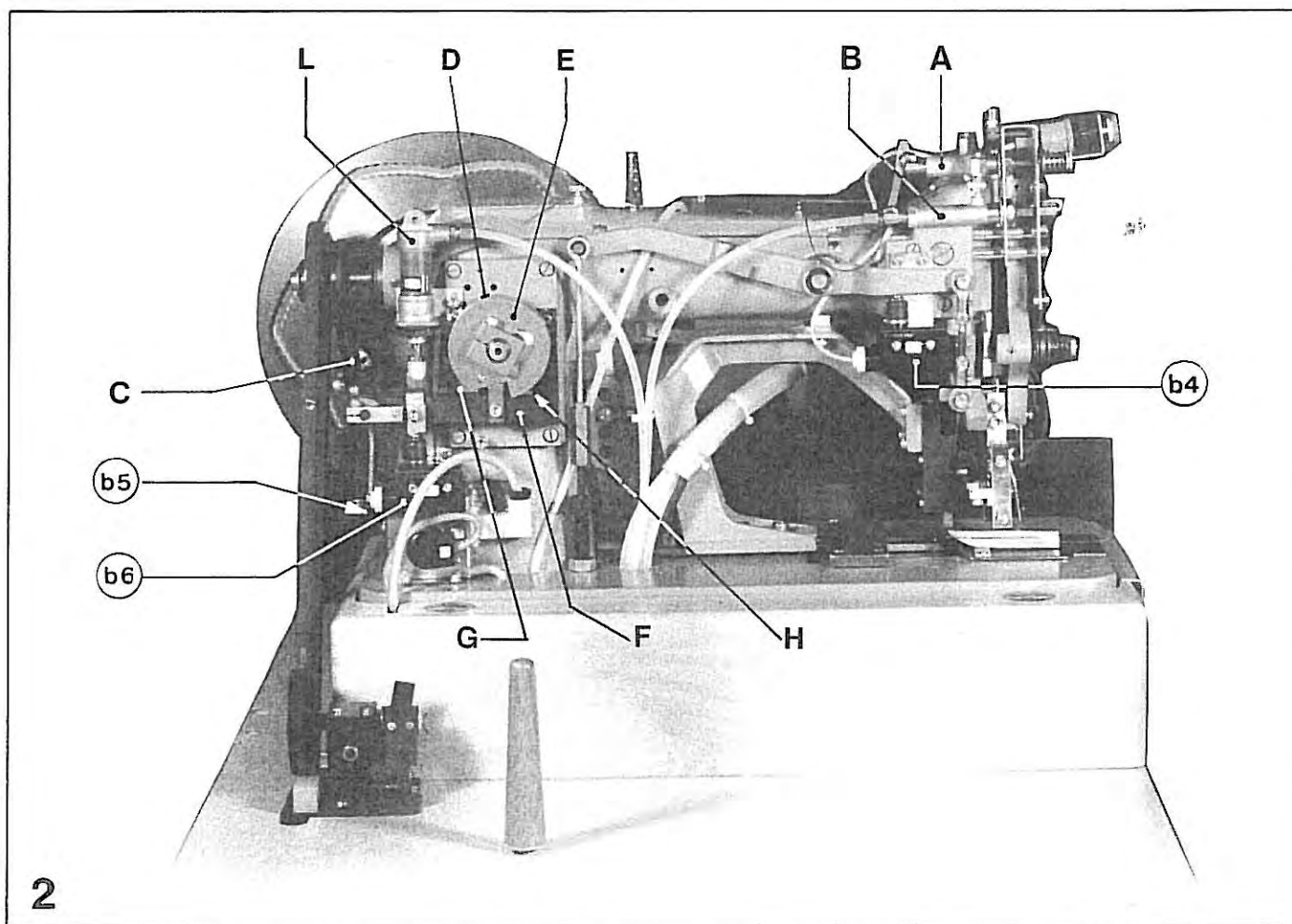
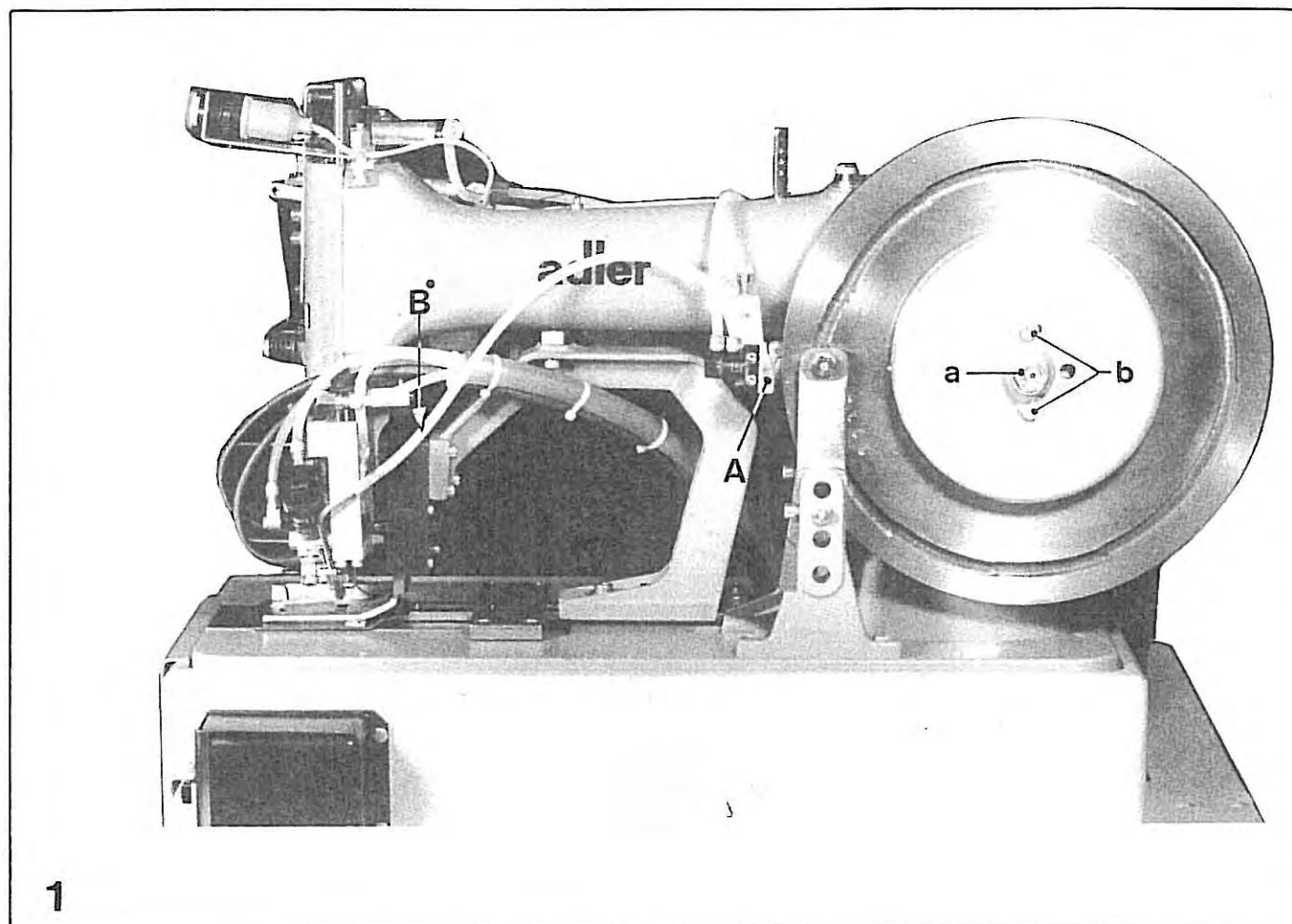
They tell you how to cope with a problem by using our industrial sewing machines and automatic sewing units which in view of ever rising labor costs are designed to provide utmost economy to the sewing trades.

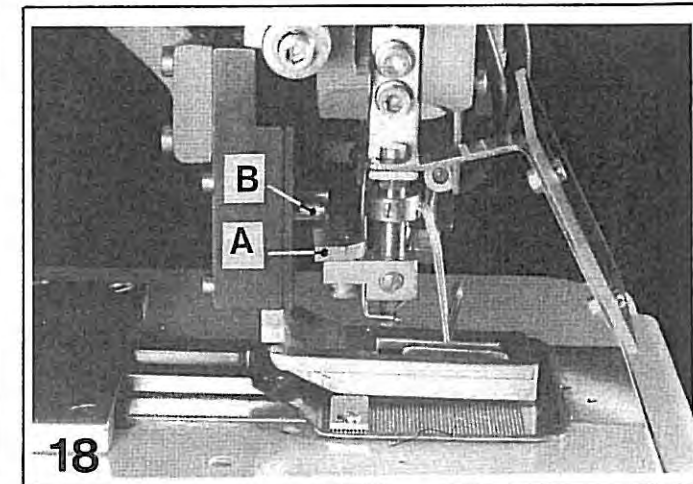
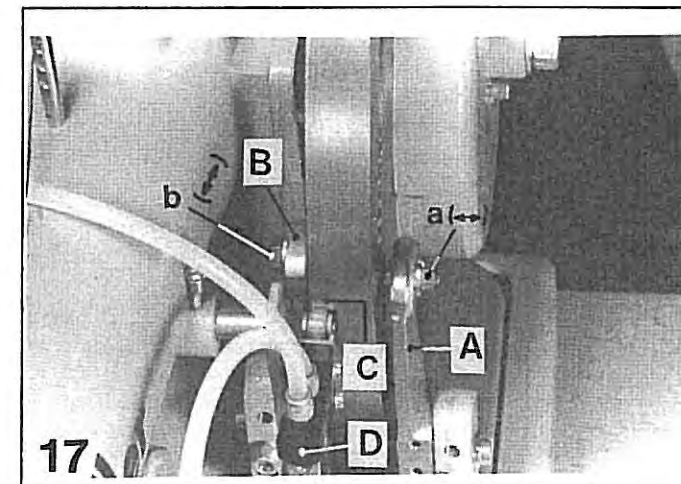
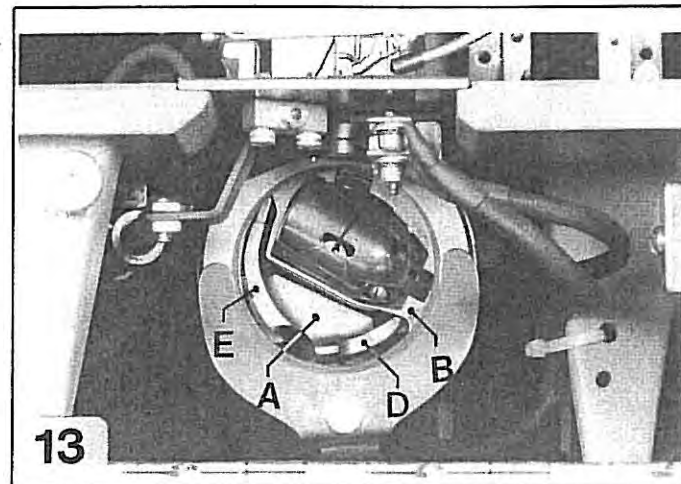
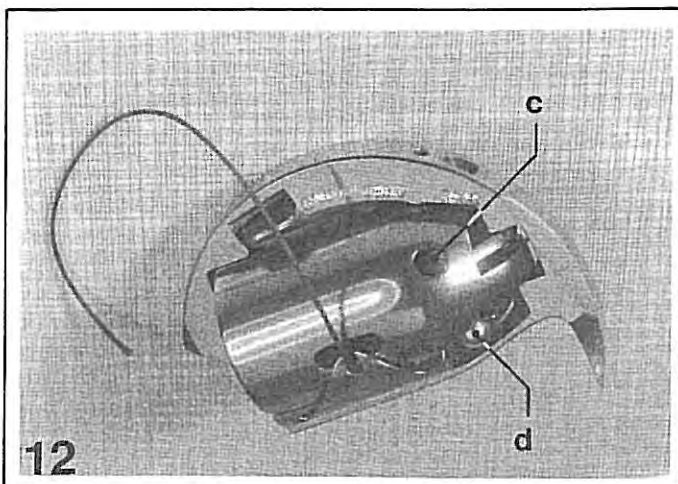
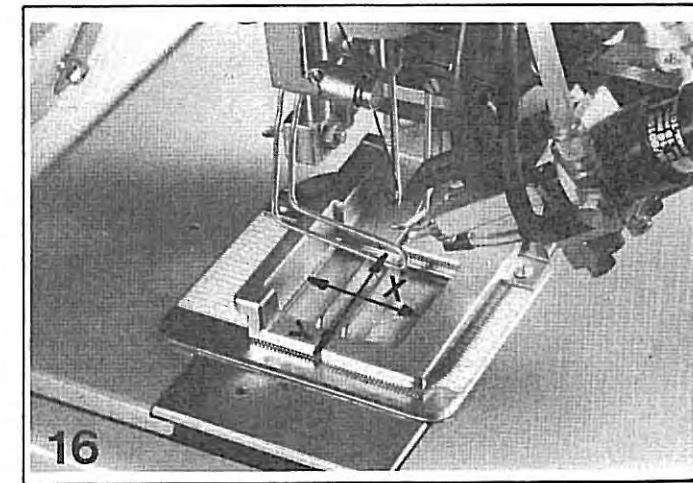
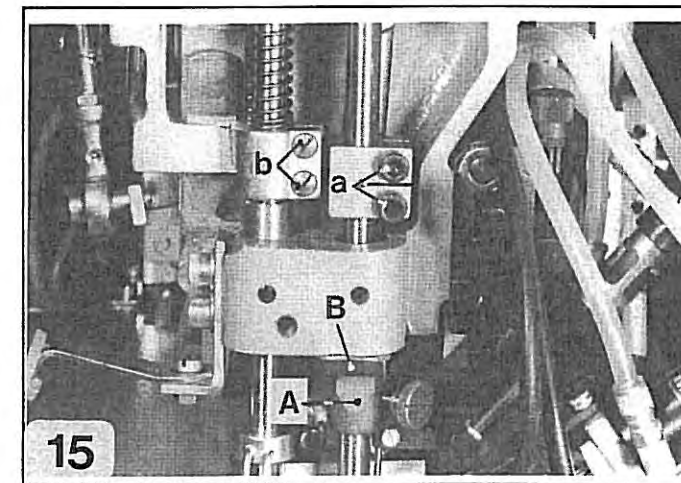
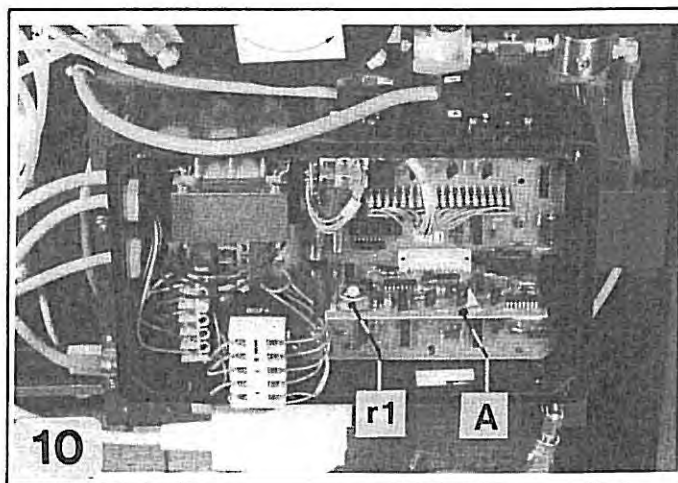
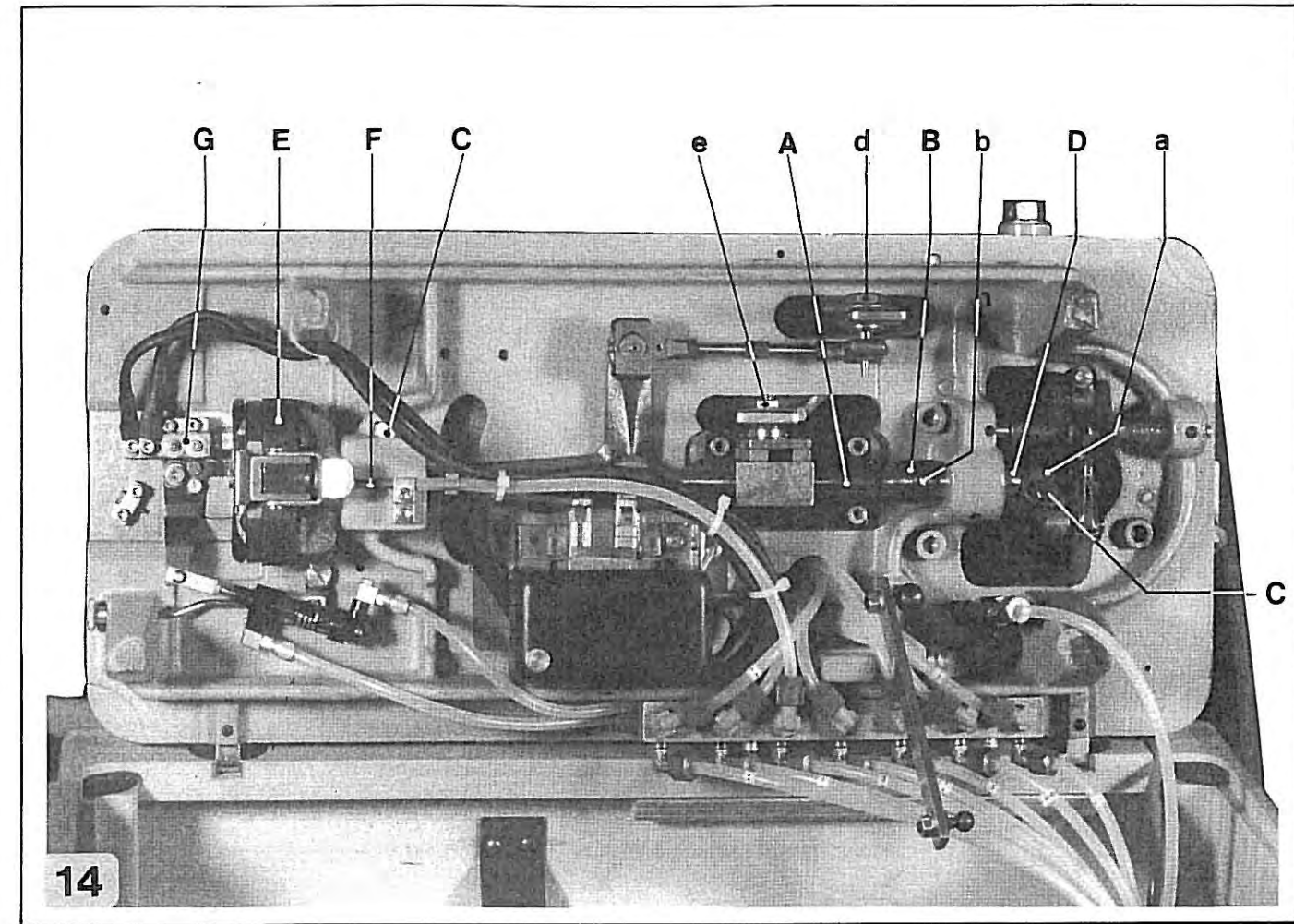
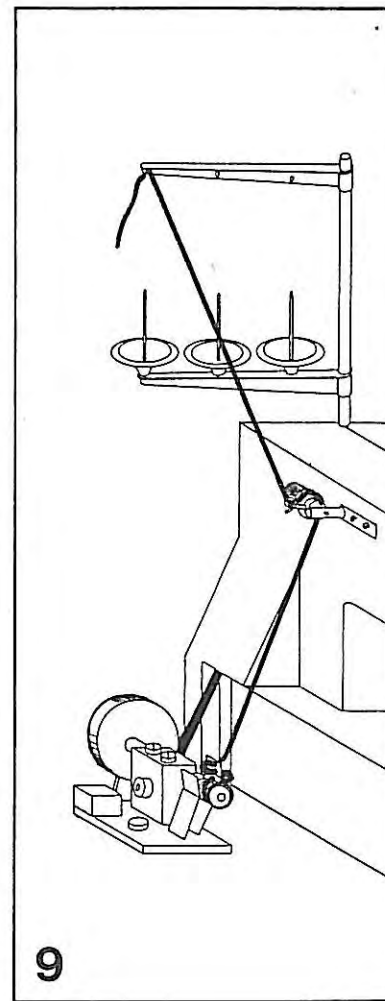
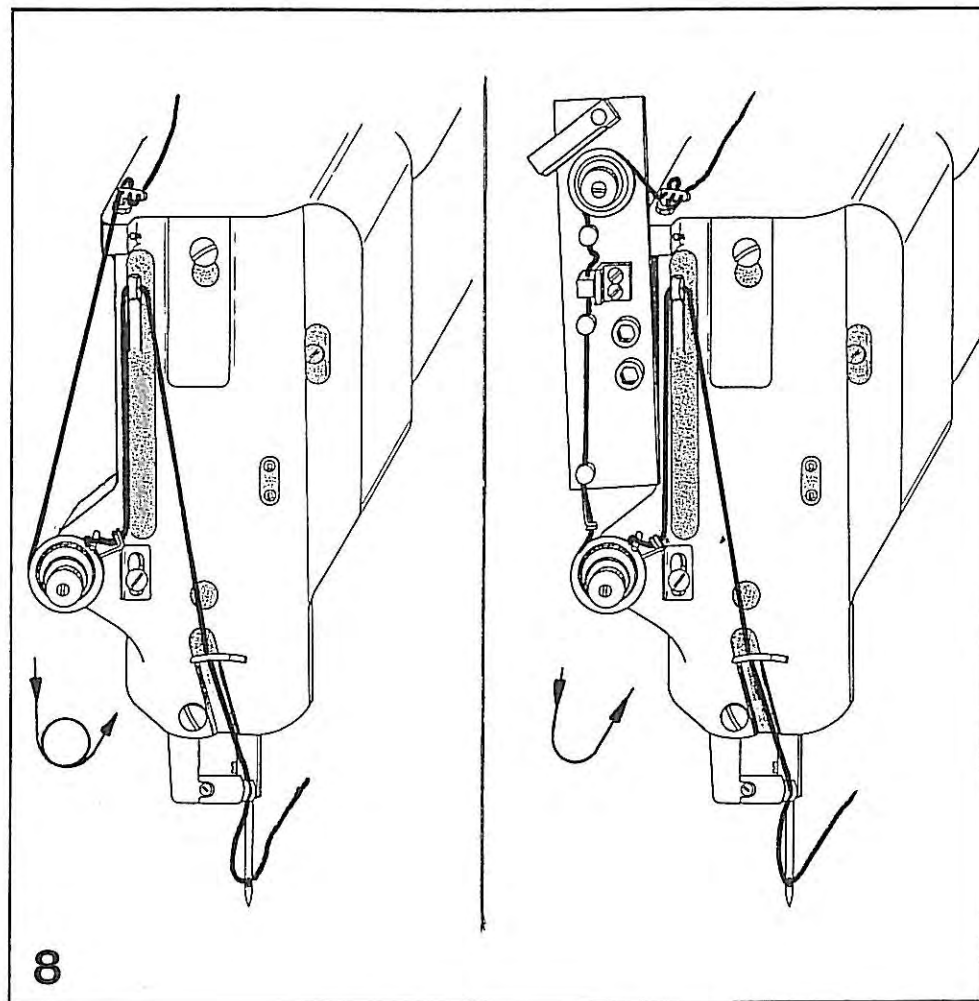
Advisory service

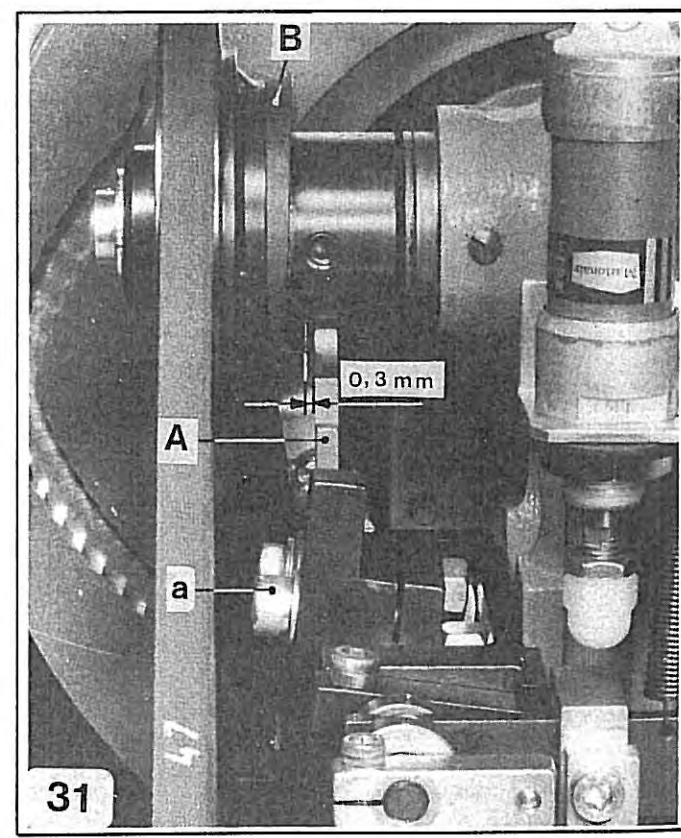
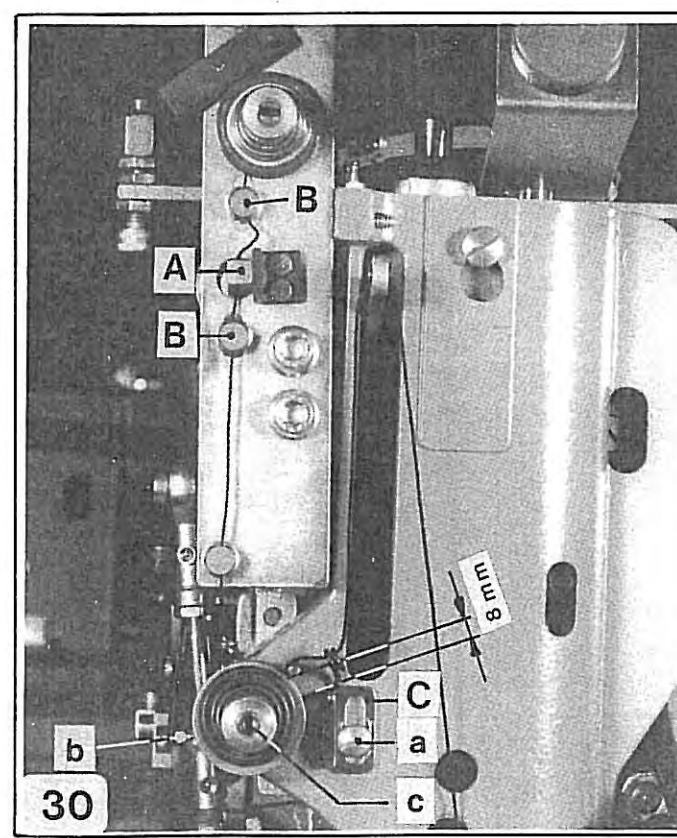
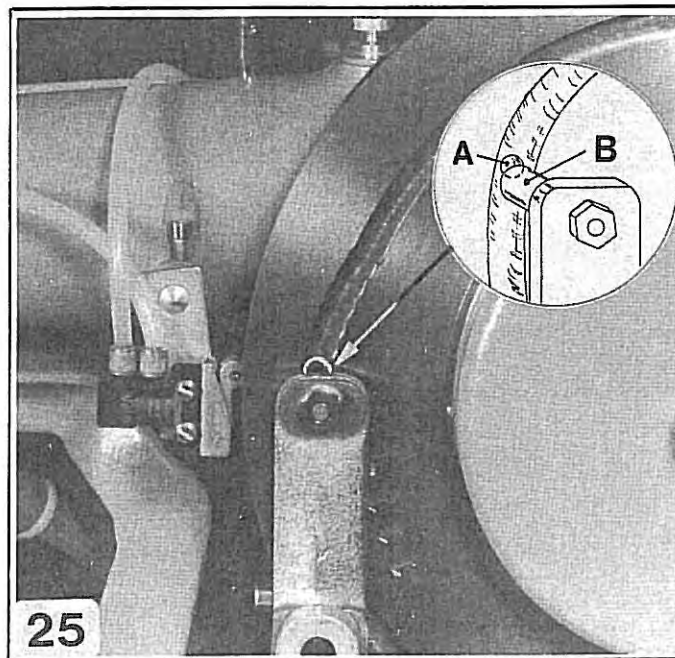
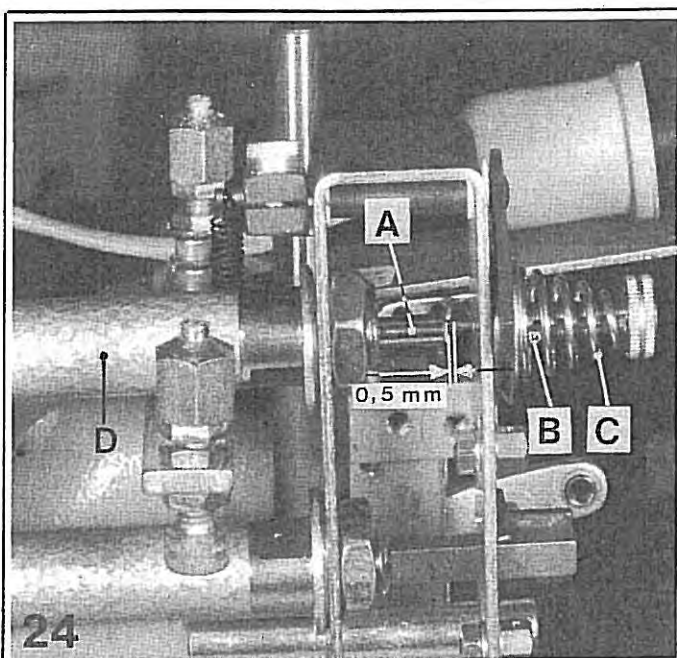
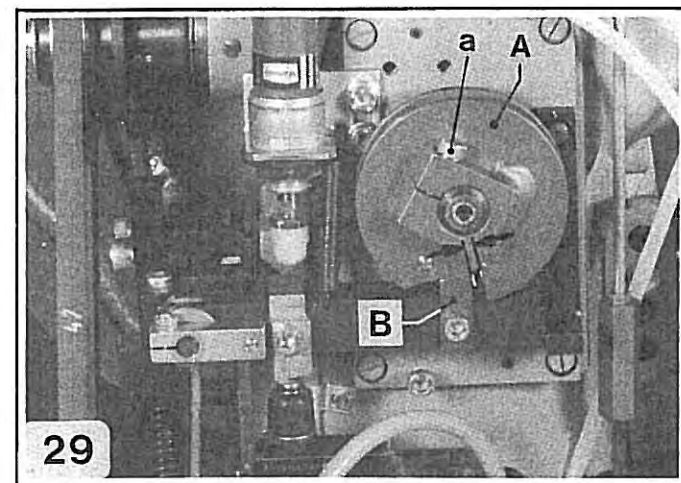
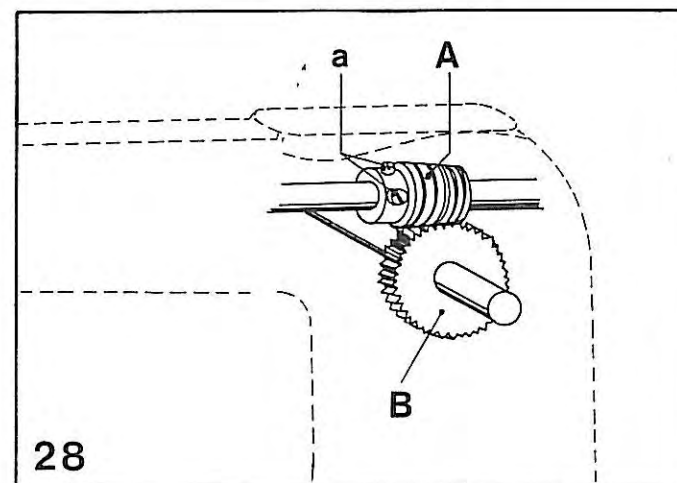
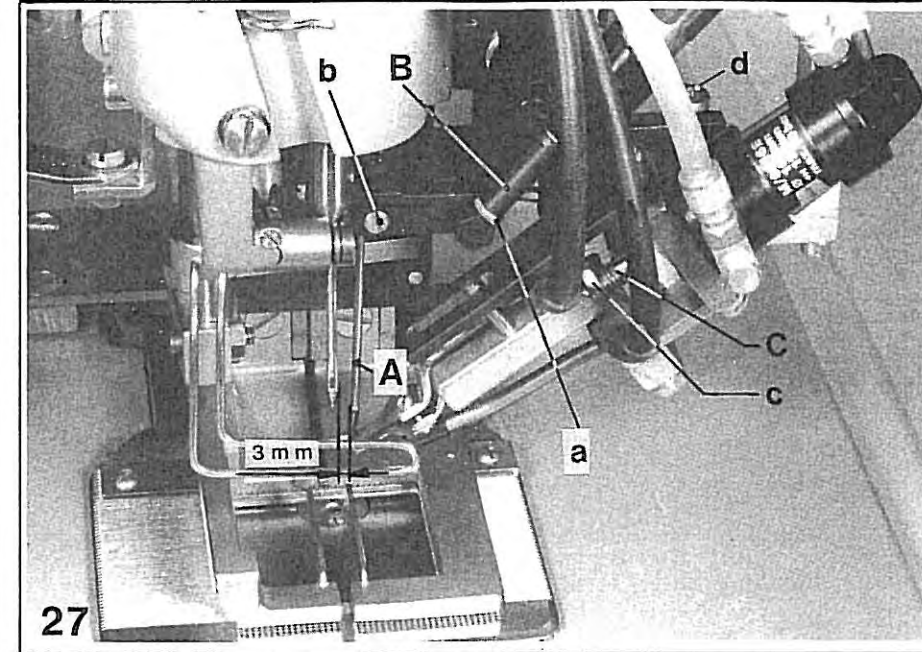
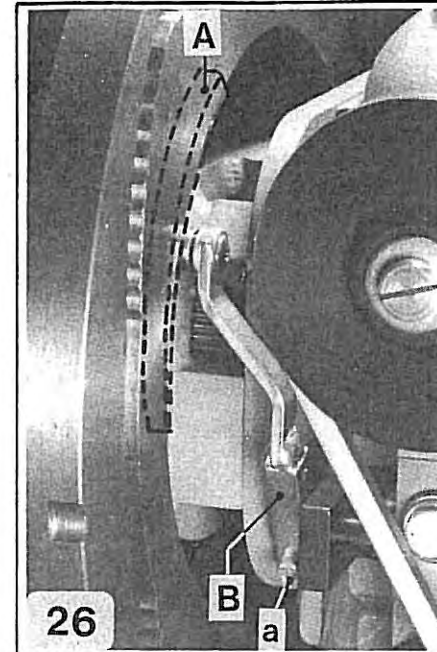
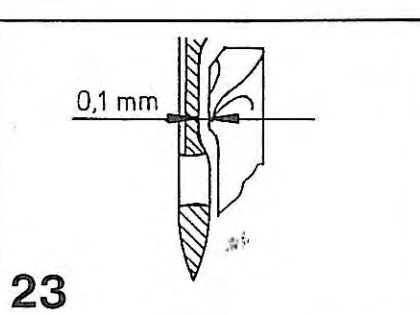
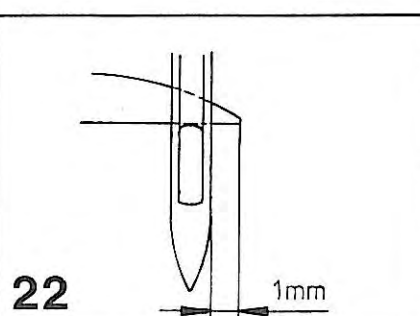
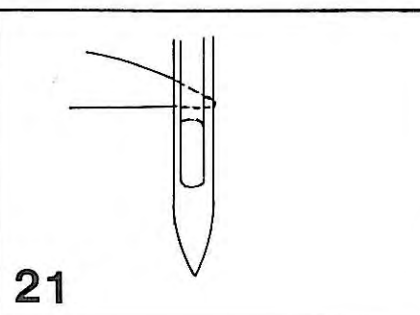
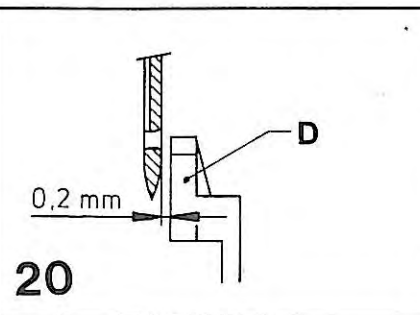
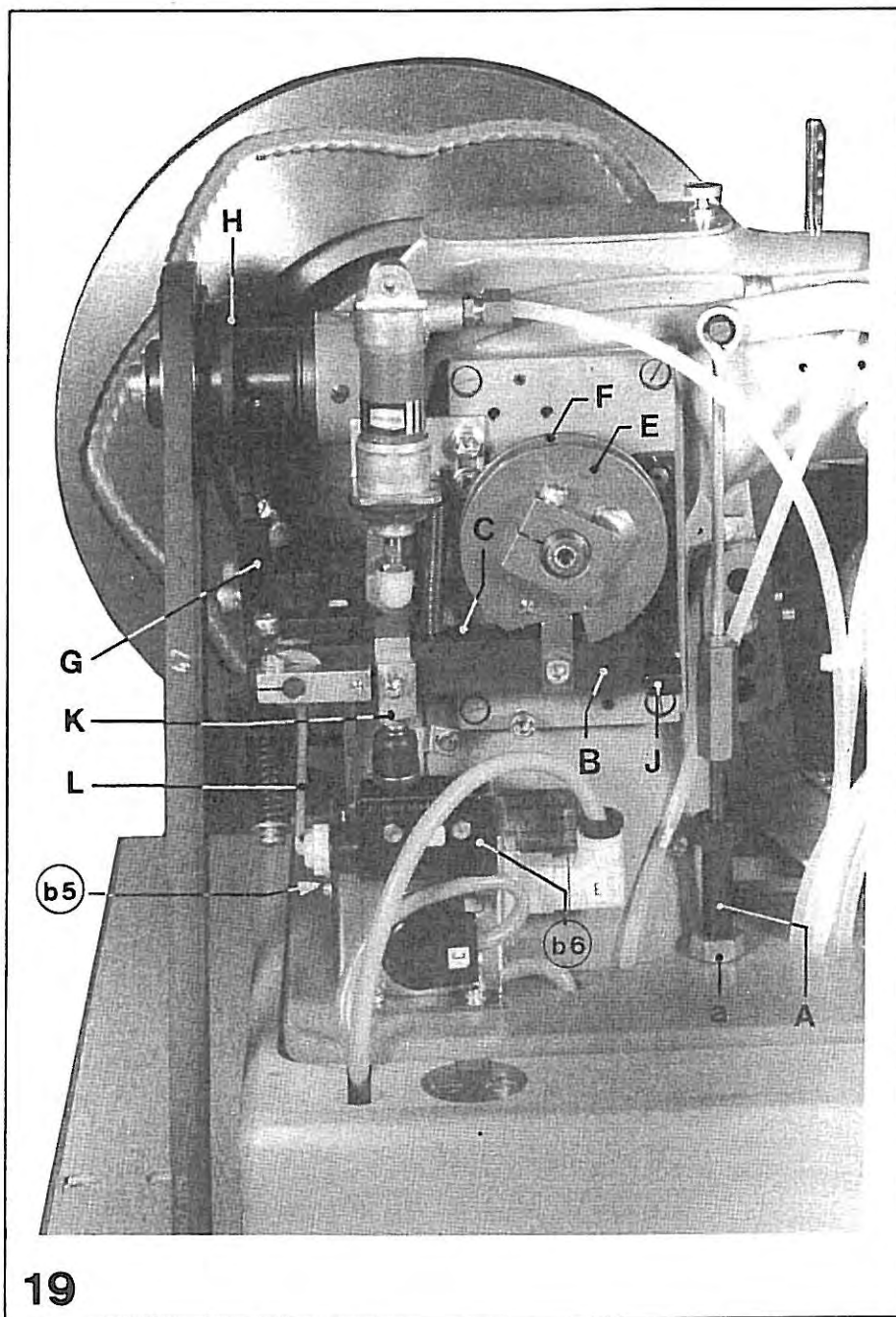
In our show-rooms you can have a look at the various types of Adler sewing machines and automatic units. Upon request, our technical advisors will help you to solve any technical problem and will be pleased to give you detailed information regarding the machines offered by us.



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