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1. Technical data

Classes	:	204-370	205-370
Needle system	:	794	794
Needle thickness	Nm:	200	200
Stitchlength max.	mm:	12	10
Presser foot stroke max.	mm:	20	20
Upper feed stroke max.	mm:	10	10

For all classes with pneumatic foot lifting (FLP) pneumatic reverse stitching (RSP) or automatic back tacking (RAP):

Air supply	bar:	7-10	7-10
Operating pressure	bar:	6	6

2. Operating and functional elements

2.1 On the sewing machine

- A/1 Stitch regulating lever
- B/2 Stitch regulating cylinder (by RSP or RAP)
- C/1/2 Thread guides
- D/2 Needle thread pre-tension
- E/1 Needle thread main tensioner with thread guide
- F/1 Feeding foot
- G/1 Presser foot
- H/1/2 Pressure regulating screw for the presser foot
- J/1 Foot lifting lever
- b1/1 Button for pneumatic reverse stitch (by RSP)
- a2/1 Switch for pneumatic reverse stitch (by RSP)
- K/2 Cylinder for pneumatic foot lifting (by FLP or RAP)
- L/2 Position maker
- T/2 Lifting lever
- Z/2 Earthing cable

2.2 On the stand

- M/1 Reel holder
- N/1 Winder
- O/3 Valve to bleed the stitch regulating cylinder (by RSP)
- P/3 Switchbox
- R/3 Distributor
- S/3 Servicing unit
- a1/3 Motor safety switch
- b2/3 Knee-switch for pneumatic reverse stitch (by RSP)
- m1/3 Motor



3. Final assembly

3.1 Inserting sewing head

- Insert sewing head into the table-top hinges Class 204-370
- Screw sewing head onto the table-top Class 205-370
- Connect earthing wire Z/2 class 205-370
- Insert sewing head support into the table-top class 204-370
- Fit together reel holder and attach to table
- Attach chain for lifting lever T/2 to right-hand pedal or knee lever

3.2 Mounting belt guard

3.2.1 Class 204-370

- Screw on angle bracket R/5
- Screw belt guard and position maker holder O/6 onto the plate S/6
- Screw plate S/7 onto the angle bracket R/7
- Attach V-belt
- Screw on upper part of belt guard, Fig. 8 (for machines with position maker: cut out section for position maker)
- Snap two halves of belt guard together and screw on

3.2.2 Class 205-370

- Screw on angle bracket R/9
- Screw belt guard holder and position maker support D/4 onto the plate S/4
- Screw plate S/10 onto the angle bracket R/10
- Attach V-belt
- Screw on belt guard, (for machines with position maker: cut out section for position maker).

3.3 Attach position maker

- Push the position maker onto the flange of the handwheel until the holder D/7/10 is firmly inserted in the groove of the position maker.
- Be sure that the two red marks align when tightening the screws.

3.4 Attaching the winder

- Position the winder on the table top so that when screwed down, the winder wheel T is driven by the V-belt when engaged. Fig. 11.



3.5 Electrical connection

- The power supply must comply with the specifications on the motor
- Plug in at power socket
- Switch on machine and check the handwheel turn anti-clockwise
- Re-pole power plug if machine runs in the wrong direction

All electrical work should only be carried out by qualified persons!

3.6 Pneumatic connection

- Unscrew the bowl of the oil-atomiser U/15 and fill pneumatic oil up to the mark (for oil types, see point 6).

By FLP: - Connect FLP-cylinder K/2 to valve T/15

By RAP: - Connect FLP-cylinder K/2 to valve T/15

- Connect port A/12 of valve O/12 to the bottom port of the RAP-cylinder B/2

- Upper port of the RAP-cylinder B/2 is then connected with valve R/15

- Connect high pressure hose to air supply and regulate working pressure using the turning knob C/15 to 6 bar. To ensure correct functioning, the air supply should maintain a pressure of 7-10 bar.

Note: When all connections have been made, the stitch regulator lever A/1 should be in the down position. If not so, the connections to the RAP-cylinder must be changed.

4. Operating

4.1 Wind on the spool thread, fig. 11

- Push empty spool onto the winder shaft
- Thread the garn through the reel holder. between the discs of the winder pre-tensioner and wind on a few turns onto the spool
- Set lever V against the spool
- Run machine. If during winding on, the machine is not used for sewing, the presser foot must be raised
- The winder shuts off automatically when the spool is full.



4.2 Insert the spool in the capsule

- Bring the hook to the rear point of return. Class 204-370
- Bring thread lever to it's top position Class 205-370
- Insert screw driver between spring W/13 and capsule and swing out the capsule
- Lay spool in the capsule and pull the end of the thread through the slit under the spring N/13/14. The thread should be pulled from the spool when it turns anti-clockwise, fig. 16.
- Close capsule

4.3 Regulate spool thread tension

- Open fork F/13, remove cover ring G/13 and take out capsule, Class 204-370
- Pull open lid D/14, Class 205-370
- Loosen screw c/14/17 and adjust the thread tension with screw d/14/17
- Re-tighten screw c/14/17

4.4 Insert needle

- Bring needle to top position
- Insert needle up to the stop and so that the indentation is opposite the point of the hook

4.5 Thread the needle

- Thread needle according to fig. 18.

4.6 Lift presser foot

- by hand with the lever J/1
- pneumatically: see point 5.1

Note: Run machines without sewing material only with presser foot raised.

4.7 Feeding foot pressure

- Regulate the upper feeding foot pressure with screw H/1.



4.8 Stroke height of the feet

Feed and presser feet have a maximum stroke of 10 mm. The maximum height has been set in the factory.

By varying thickness of material (cross-seams) during a sewing run, the presser foot stroke should be adjusted to the thickest material

To adjust:

- Loosen screw m/18 (through the drilling in the head plate)
- Insert screwdriver in the slot of the slider M/18 (through the elongated hole in the head plate) and re-set the slider upwards
 - slider up : minimum stroke
 - slider down: maximum stroke

4.9 Adjust stitchlength

4.9.1 Machines without RSP/RAP

- Turn the grip in the stitch regulator lever A/1 to the right:
shorter stitchlength
- Turn the grip on the stitch regulator lever A/1 to the left:
longer stitchlength
- Sewing backwards: raise stitch regulator lever above the "0" position

4.9.2 Machines with RSP/RAP

- To bleed the stitch regulating cylinder, the lever of the valve O/3 must be pressed to the right
- Turn the grip on the stitch regulator lever A/1 to the right:
stitchlength shorter
- To the left:
stitchlength longer
- Press the lever of valve O/3 again to the left, (otherwise no RSP-or RAP-function)



5. Additional equipment

5.1 Pneumatic feed foot lifting

By machines with pneumatic feed foot lifting (FLP) or pneumatic back-tacking (RAP), the cylinder K/12 lifts the presser foot at the end of a seam.

The position of the needle and the presser foot when the pedal is released can be adjusted in the motor-control box P/3.

Control box Efka type 9 B 31 (FLP), fig. 22

Needle position : with the jumper b17

Presser foot position: with the jumper b23

Control box Efka Type 8 E 521 (RAP), fig. 21

Needle position : with the switch S17

Presser foot position: with the switch S23

Control box Quick Type AQ 5.852 (FLP) and AQ 5.609 (RAP), fig. 23

Needle position : with the switch A

Presser foot position: with the switch E

5.2 Pneumatic reverse stitching, RSP

With the switch a2/1, the stitch regulator is pneumatically switched to backwards stitching and a red light goes on in the switch.

Next time the switch is pressed, the stitch regulator is switched back to forward sewing and the red light goes off.

By depressing the button b1/1 or the knee switch b2/3, the stitch regulator remains in the backwards stitching position for as long as button or knee-switch are held. During this time the red light is on in switch a2/1.

The machine reverts to forward stitching on releasing either the button or the knee-switch. The red lights goes off.

5.3 Pneumatic backtacking, RAP

Single and double initial and final backtacking is adjustable on the motor control box P/3.

The initial backtack is actuated by depressing the pedal forwards, the final backtack by depressing the pedal backwards at the end of a seam.

5.3.1 Motor control box Efka Type 8 E 521

Initial backtack, fig. 21

- Switch S20 up : Initial backtack single
 middle: " " off
 down : " " double



Final backtack, fig. 21

- Switch S21 up : Final backtack on
- down: " " off

Number of backtack stitches, fig. 19

- Switch group b70 for initial backtack single (ARe)
- " " b71 " " " double (ARd)
- " " b72 " " " single (ERe)
- " " b73 " " " double (ERd)

Each single switch has a specified value in it's closed position:

- Switch 1 and 5 = 1 stitch
- " 2 and 6 = 2 stitches
- " 3 and 7 = 4 stitches
- " 4 and 8 = 8 stitches

Open switches have zero value.

By combination, the single switches can produce backtacking with 1 to 15 stitches.

Position of presser foot after backtacking, fig. 21

The position of the presser foot after backtacking can be determined with the jumper S45:

- Jumper closed - presser foot raised
- Jumper open - presser foot down

5.3.2 Control box Quick Type AQ 5.609

Initial backtack, fig. 23

- Switch up : Initial backtack single
- " middle: " " off
- " down : " " double

Final backtack, fig. 23

- Switch D up : Final backtack single
- " " middle: " " off
- " " down : " " double

Number of backtack stitches, fig. 20

- With the turning switch Ar2 for the initial backtack single (ARe)
- " " " " Ar1 " " " double (ARd)
- " " " " Er2 " " " single (ERe)
- " " " " Er1 " " " double (ERd)

For each backtack, the number of stitches can be selected from 0 to 9

Position of presser foot after backtacking, fig. 23

The position of the presser foot after backtacking can be determined with the switch E.



6. Service

After heavy workloads, the hook, feed-dog, and needle thread tensioner should be cleaned and oil applied to the lubrication points, see figs. 24-33.

Lubricants

Only branded oils, i.e. ESSO MILLCOT K 68, with the following specifications:

Viscosity at 40° C: 65 mm²/s
Flashpoint : 212° C

ESSO MILLCOT K 68 can be ordered:

1 ltr: Part-No. 990 47 012 8
5 ltr: Part-No. 990 47 012 9

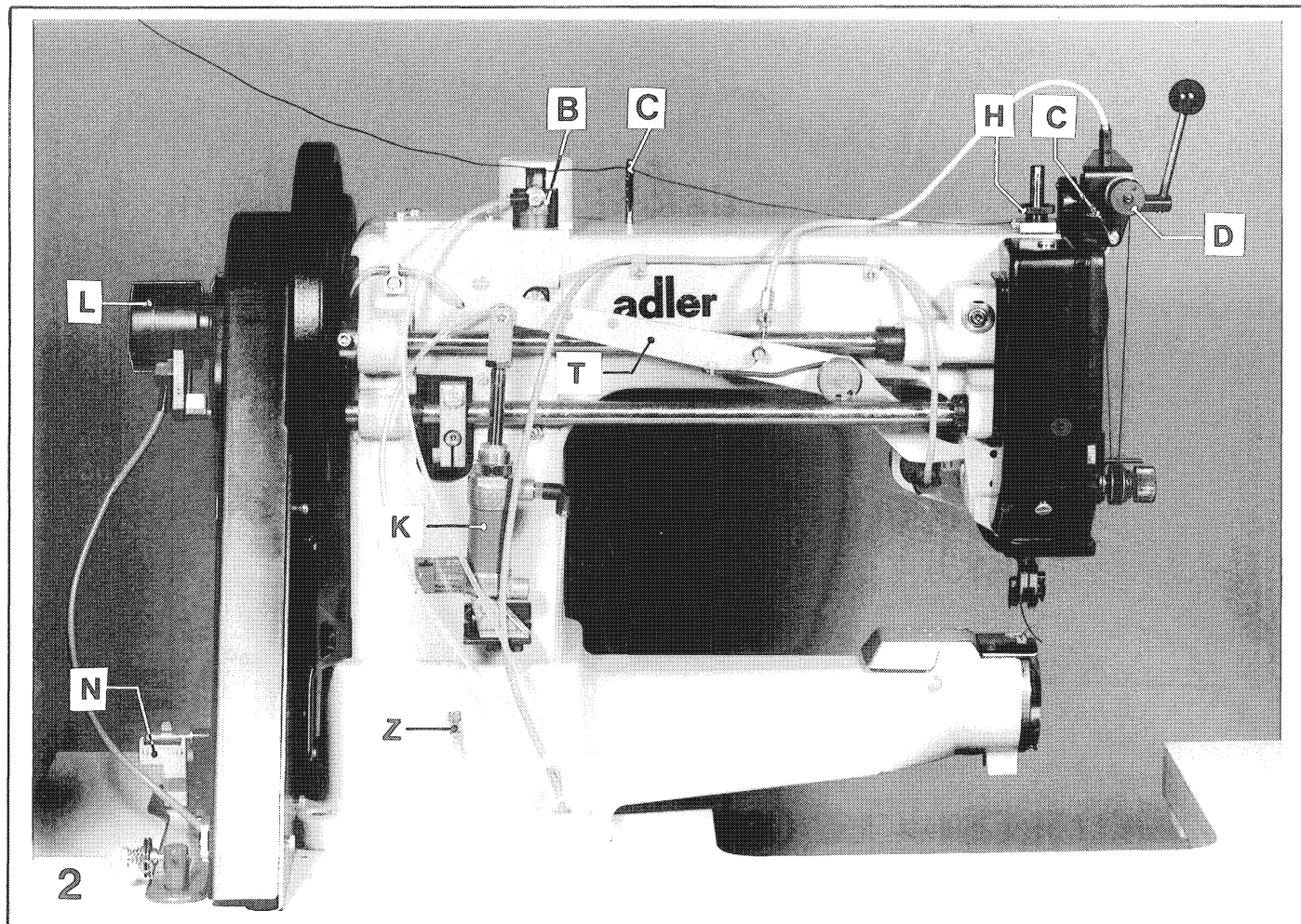
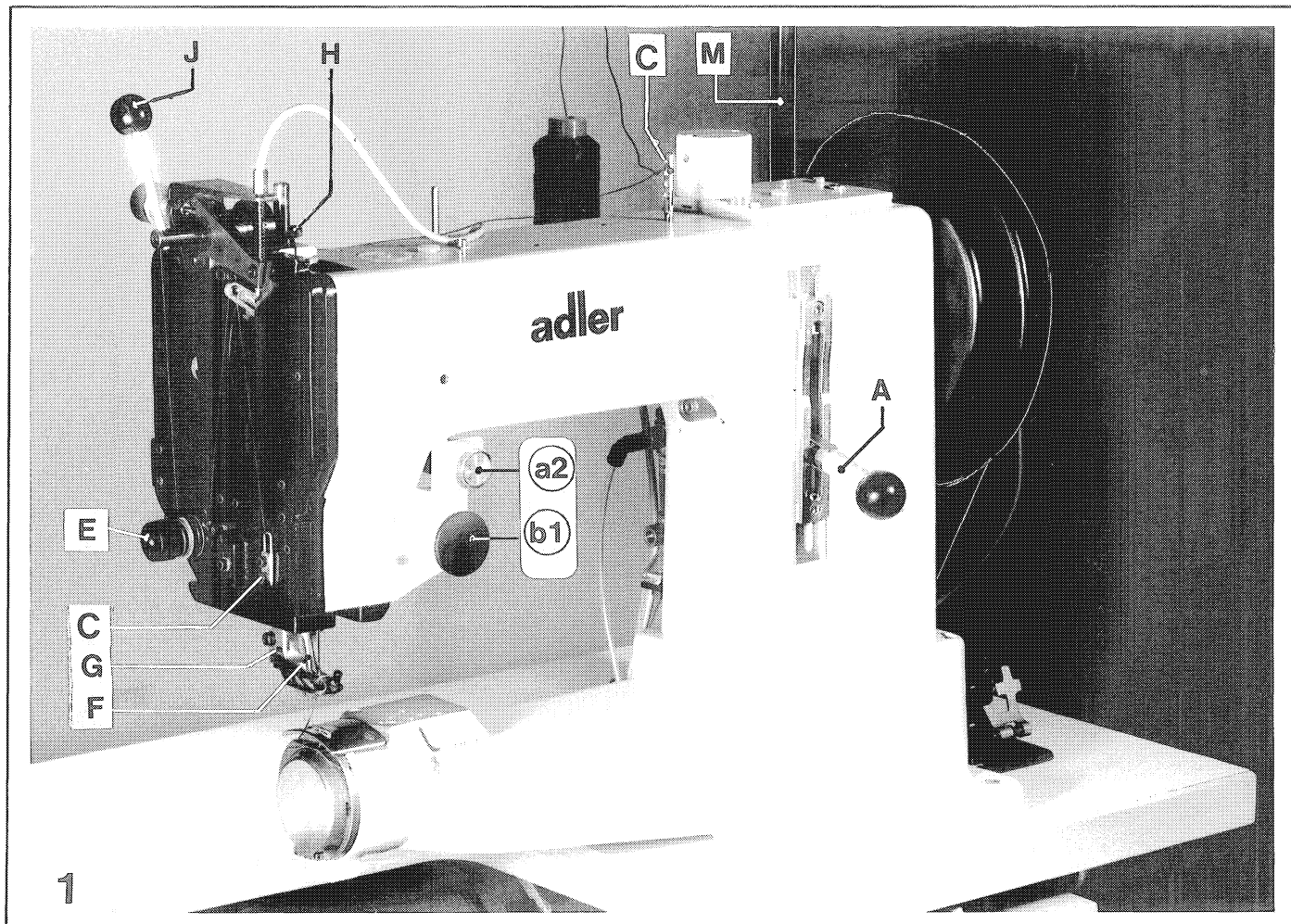
Pneumatic oil

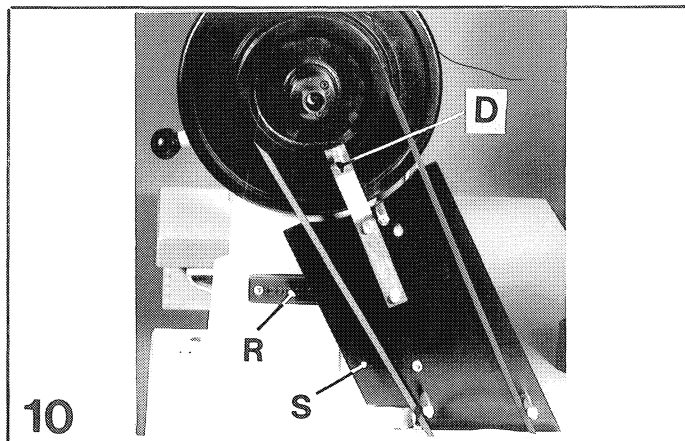
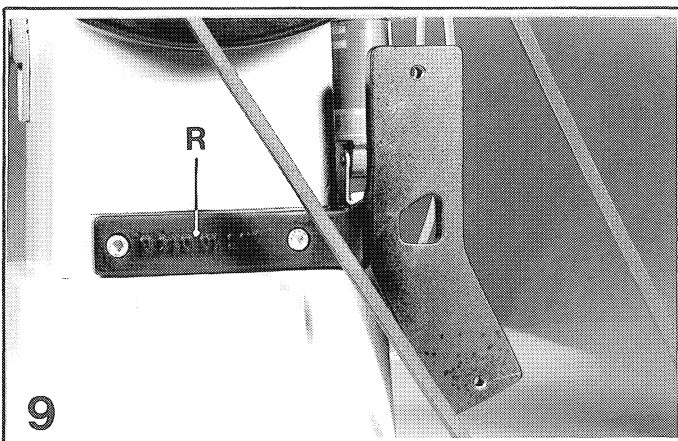
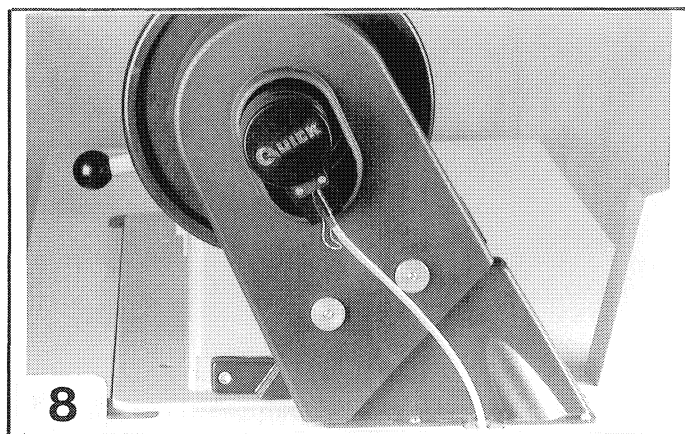
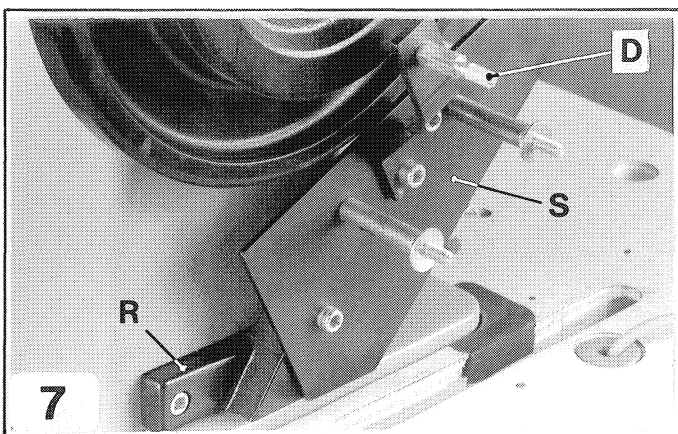
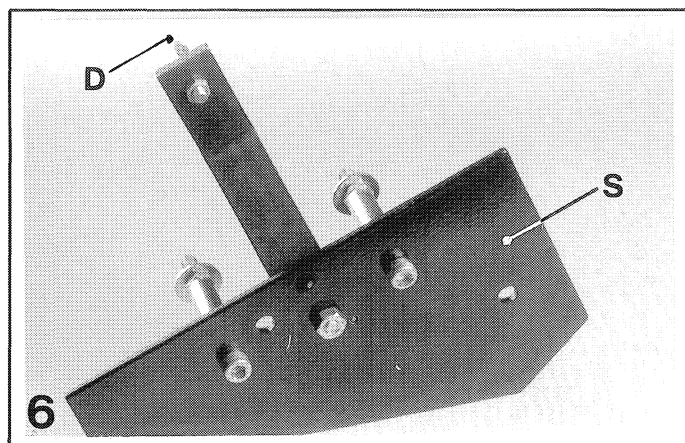
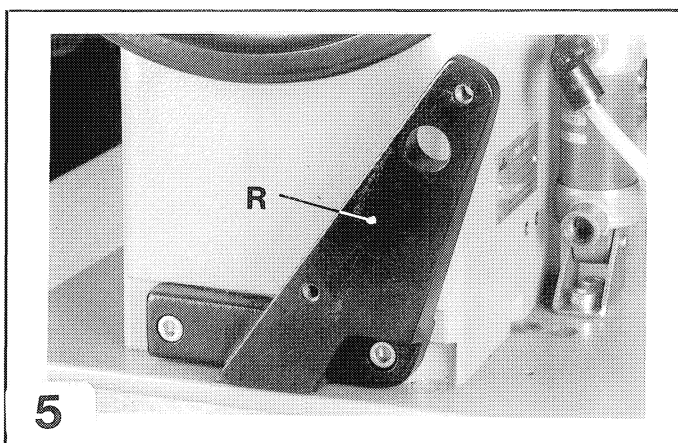
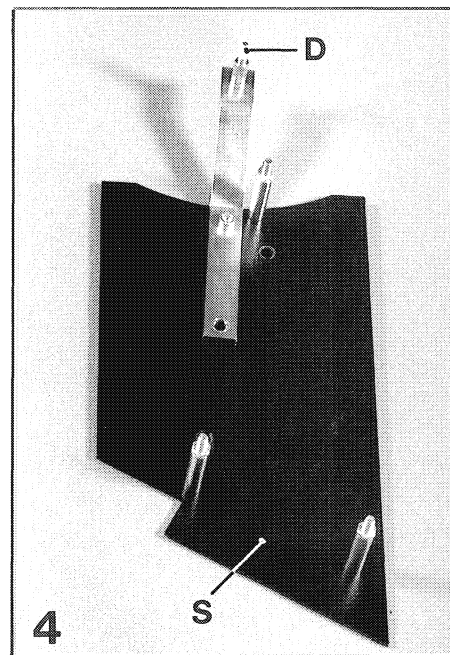
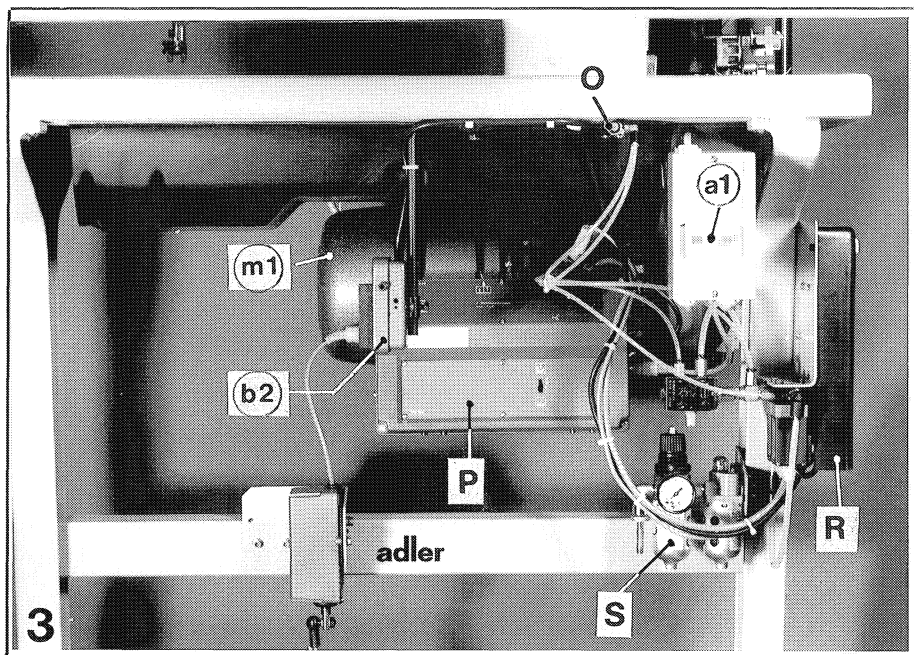
Only branded oils, i.e. ESSO NUTO H 68, with the following specifications

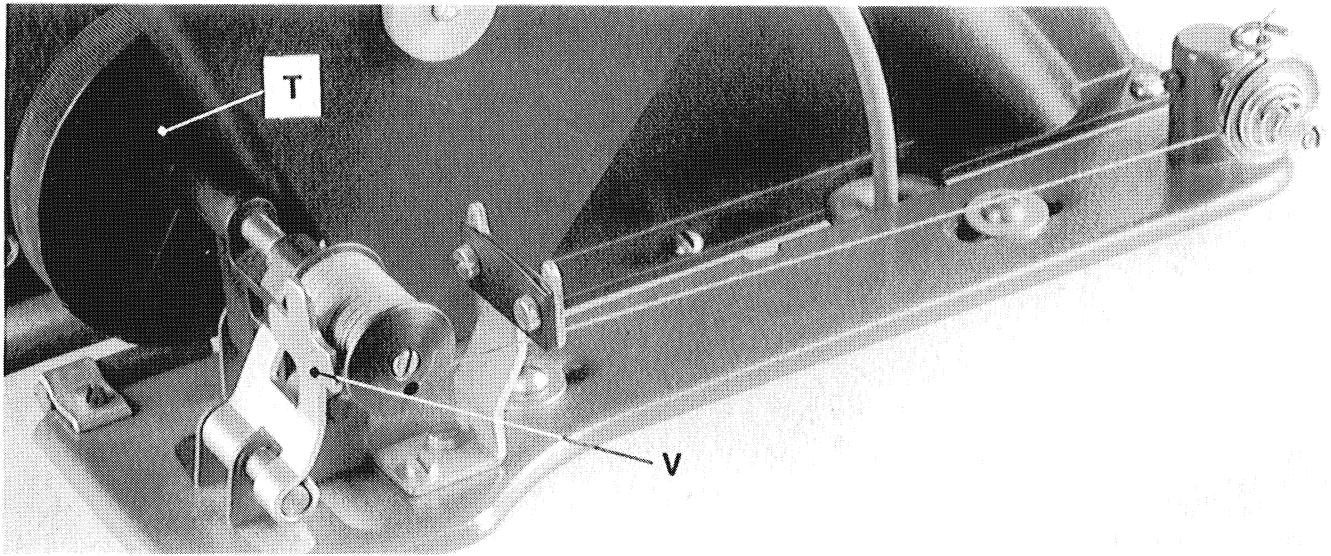
Viscosity at 40° C: 66 mm²/s
Flashpoint : 236° C

ESSO NUTO H 68 can be ordered:

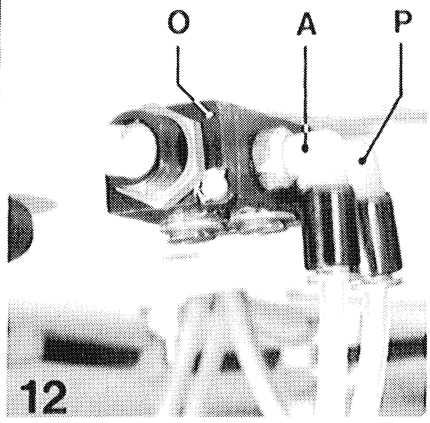
250 cm³: Part-No. 990 81 006 7
1 ltr : Part-No. 990 47 010 5



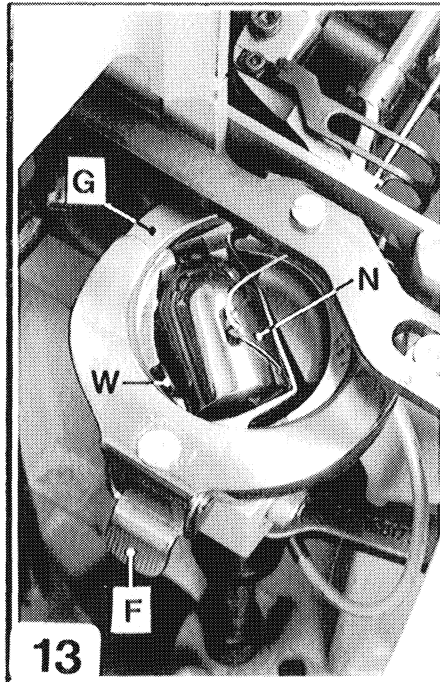




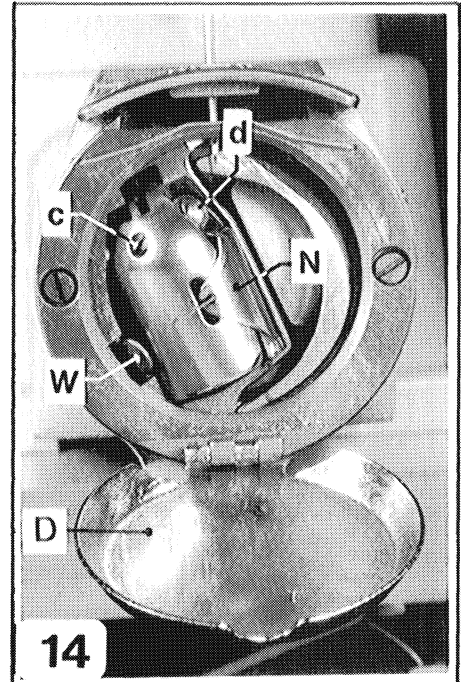
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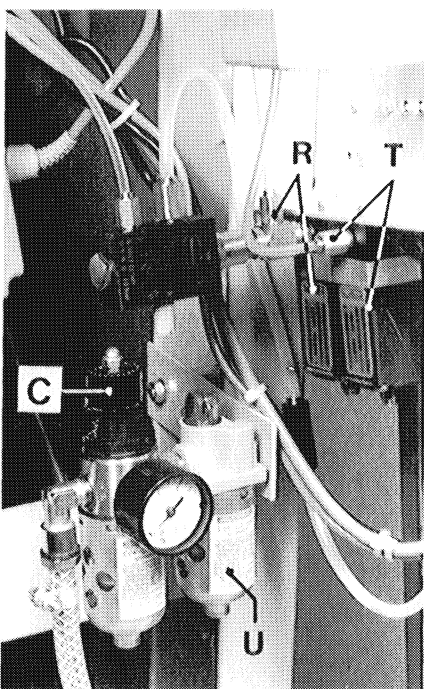
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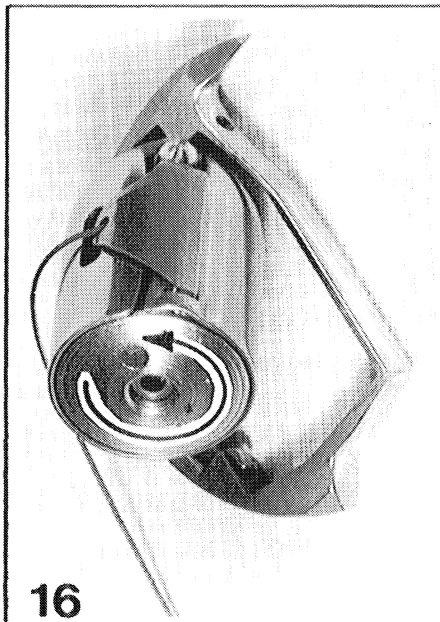
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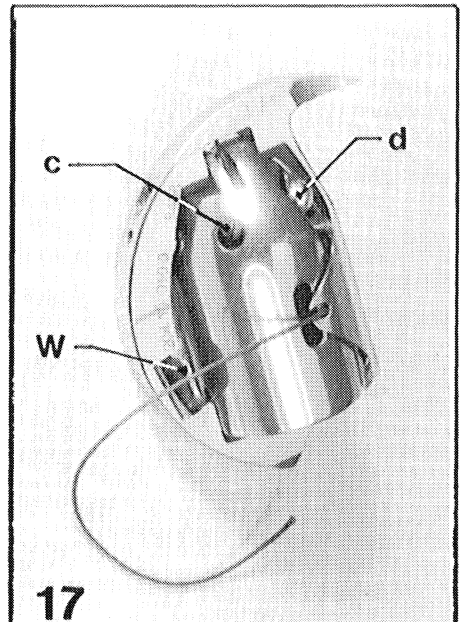
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