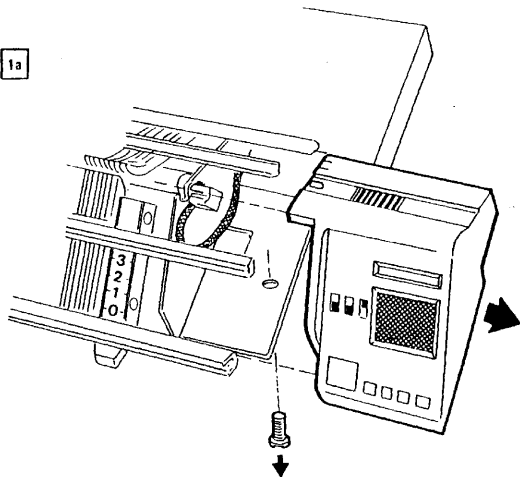
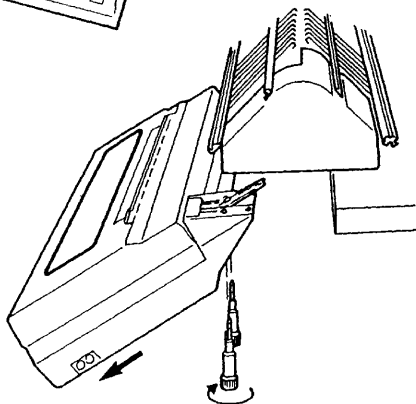


..THE FRONT NEEDLE BED..

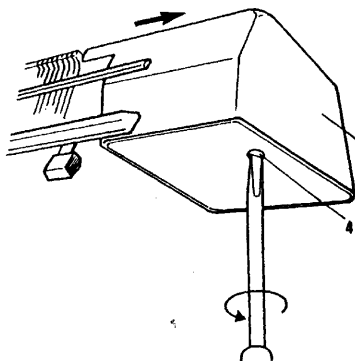
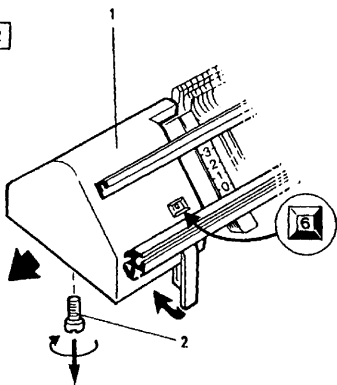
1a



1b



2



The front needle bed is the same on all machines of the range.

In this chapter we're going to study its mechanism just as the different parts of it, that remains:

- the needle bed release system
- the needle bed spacing system
- the racking system

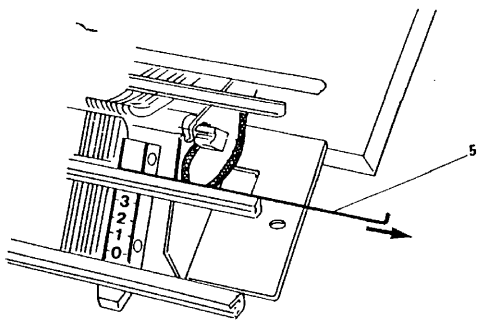
Fix the machine on a table with two clamps and withdraw both carriages.

1a - 1b. In case of a machine with electronic selection, withdraw the selection box.

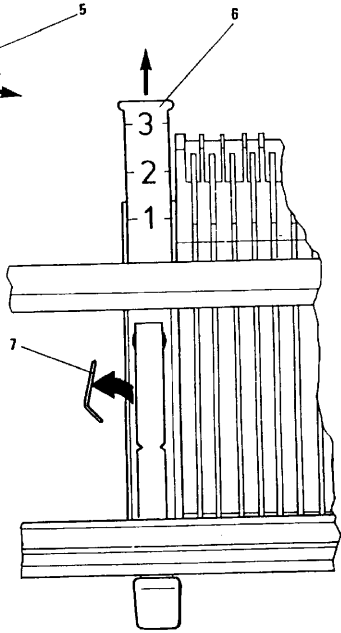
2. Set the space selector lever on 6 to be able to remove the left end cover (1) by loosing screw (2) .
3. If necessary withdraw the same way the right end cover (3) by unscrewing screw (4) .

4. Withdraw the needle retaining wire (5) by pulling it towards the right side of the machine.
5. On each side of the front needle bed, withdraw the graduated scales (6) just as the release lever springs (7) .
6. Then, while holding the needle bed with both hands, push with thumbs on the release lever knobs to release the front needle bed of its guides.

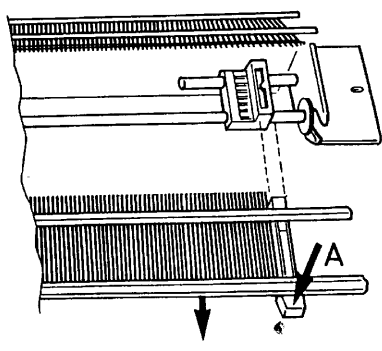
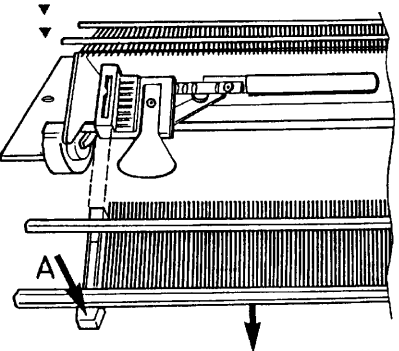
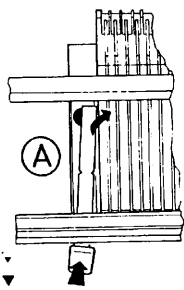
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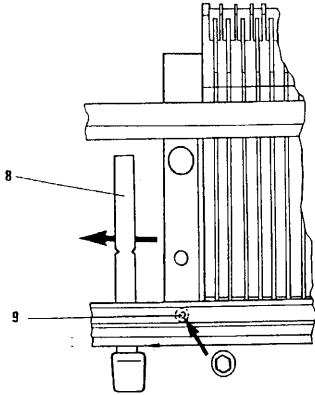
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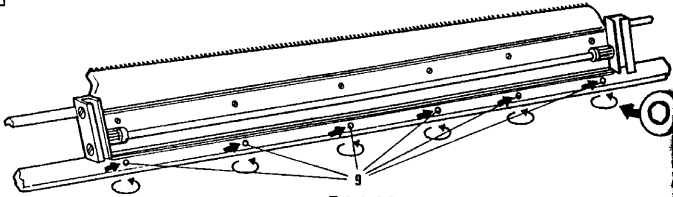
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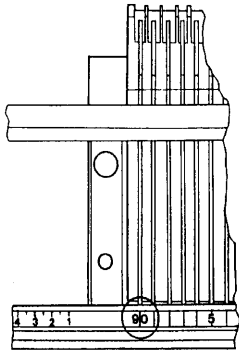
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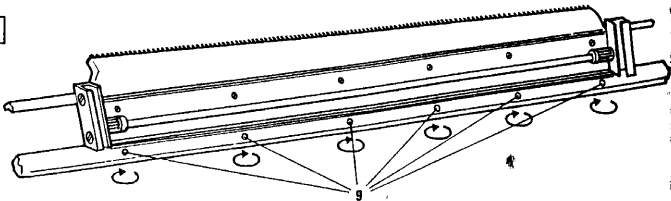
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9



10



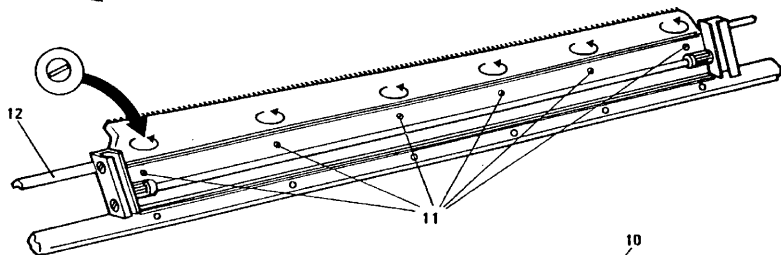
7. Lay the needle bed on a table.
Remove the release levers (8) by loosening slightly, if necessary, both extremes screws (9) of the lower slide rail.
Take an Allen key of 2 mm.
8. To remove the lower slide rail, just loosen the six screws (9) . It's not necessary to withdraw them.
9. To lay the lower slide rail back, proceed opposite of dismounting.
At each end of the needle bed, coincide the last needle with number 90 of the graduated scale.
10. Turn the needle bed upside down and fix the lower slide rail by tightening all screws (9) .

11. To replace the needle retaining spring (10) , loosen the six screws (11) to remove the top rail (12) . Those screws (11) are unloosable screws: one can't unscrew them completely.

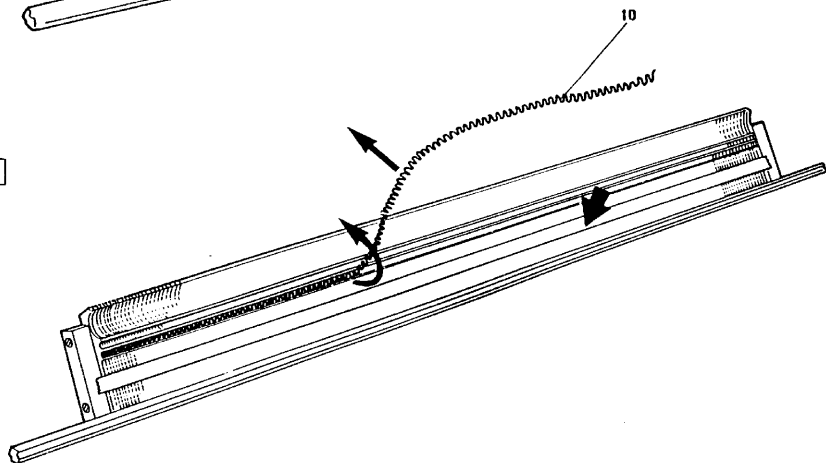
N.B. : Before unscrewing those screws, think about sticking a piece of tape over the needles, on the whole length of the needle bed, to avoid needles to fall.

12. Turn the needle bed inside out. The top rail is free. Unhook the needle retaining spring (10) of its anchoring discs at each end of the needle bed.
13. Put a new spring in, by hooking it on its anchoring discs at each end of the needle bed.
Let 3 or 4 spirals hang out of the discs/

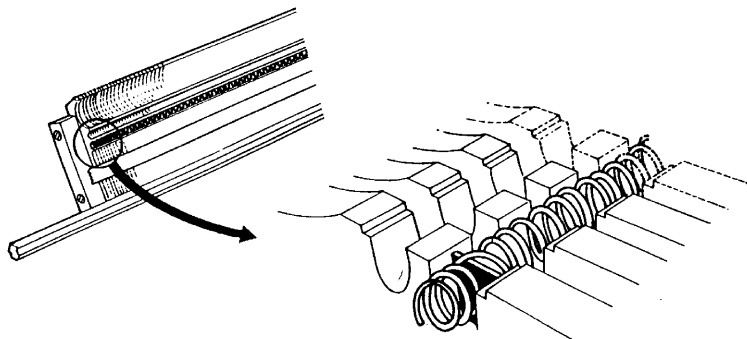
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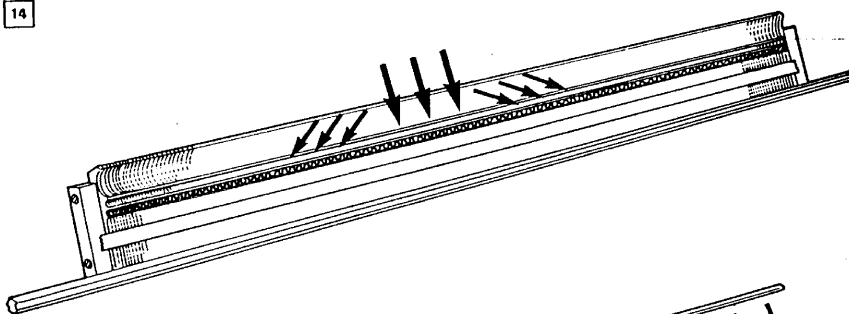
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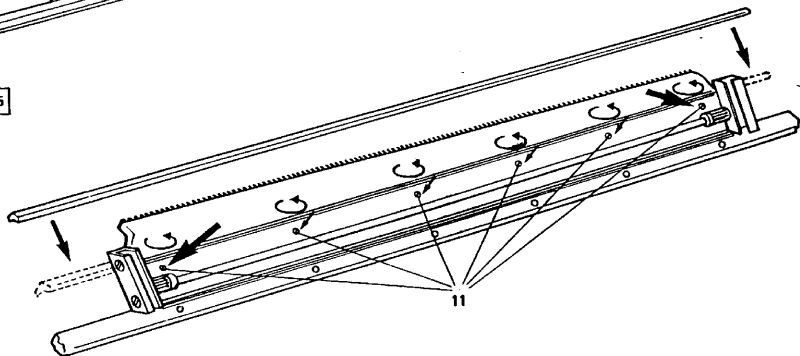
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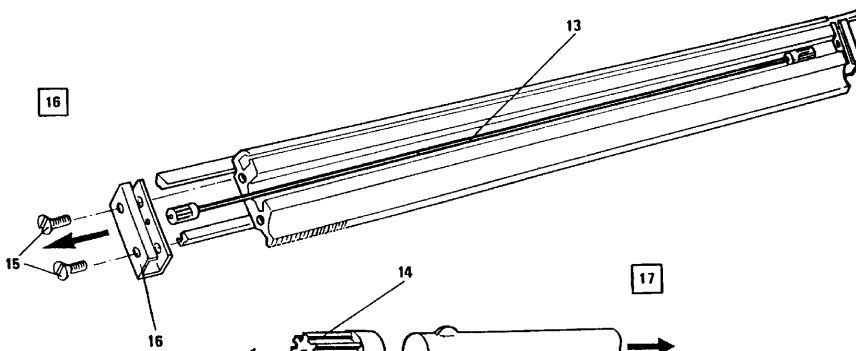
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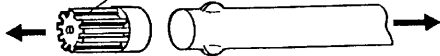


16



14

17



14. Press the spring against the needle bed to share out the spirals amongst the needles, starting in the middle.

15. Lay the top rail over the spring and fix it on the needle bed by means of the screw (11) .
For more easiness, start by introducing both extreme screws into the top rail.

16. To replace the gear shaft (13) , or most frequently its positioning gear (14) , just loosen the two screws (15) at one end of the needle bed. Remove the bed guide (16) , and that releases the gear shaft (13) .

17. The needle positioning gears (14) are only encased on the gear shaft and located by two small snugs.

Before remounting the front needle bed, we're going to study the mechanism of the space selector system and the racking system.

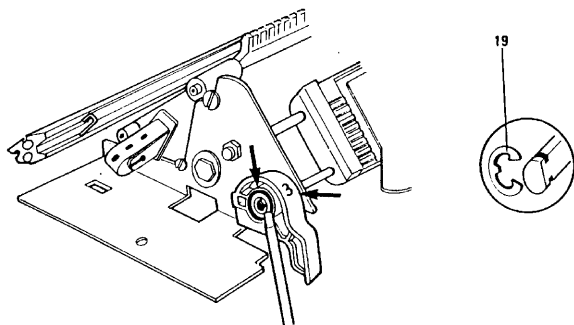
18. Remove the clip (19) .

19. Set the space selector lever (21) on number 3 to be able to remove it by pulling it towards the outside.

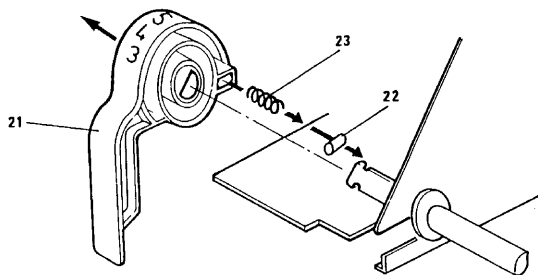
N.B. Recover the spring (23) and the guide (22) .

20. With a 13mm key, loosen and take the nut (24) and the washer (25) out.

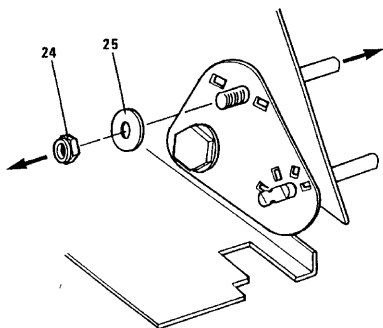
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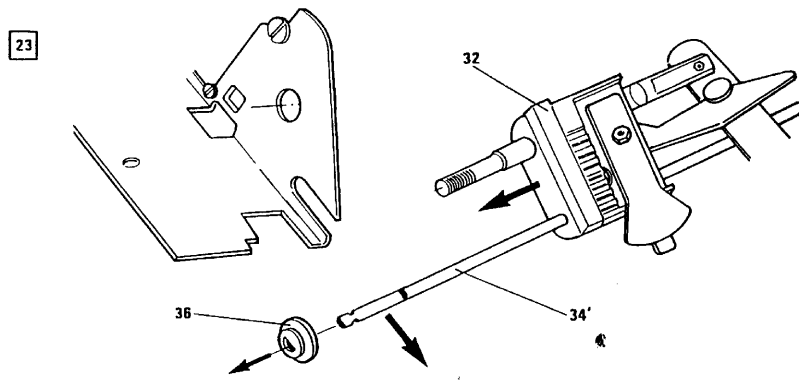
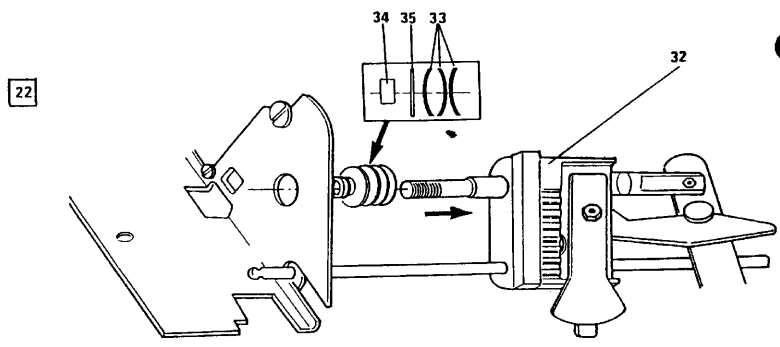
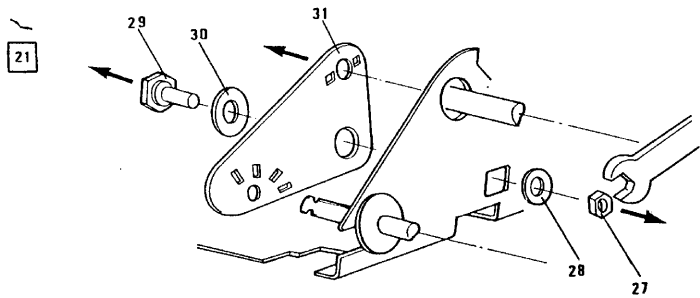


19



20





21. With a 10 mm key, loosen and remove nut (27) and washer (28) .

On the other side of the left end bracket, remove the hinge screw (29) and the washer (30) .

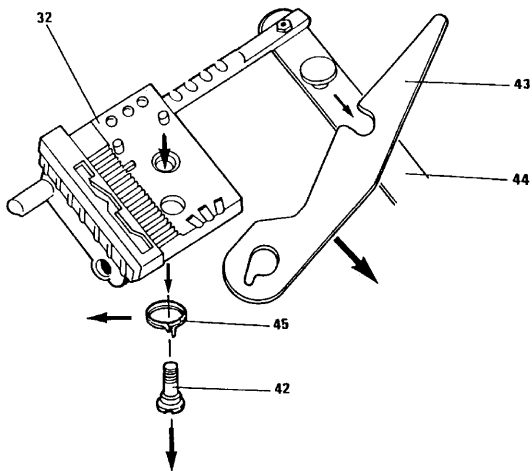
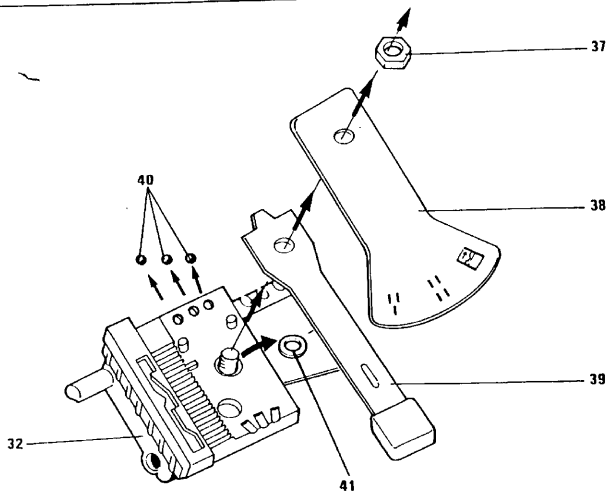
Recover the space selector hinge plate (31) .

22. Pull the needle bed release system towards the right side of the machine.

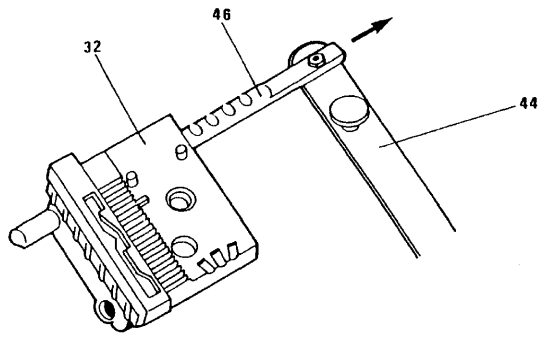
Recover: - the racking index pin bushing (34)
- the racking index pin washer (35)
- the three racking index pin washers (33)

23. Take the space selector shaft (34) out of it's location into the left end bracket by pulling it towards you. Take out the space selector shaft, the space selector cam. (36) just as the front needle bed support (32) with the racking system.

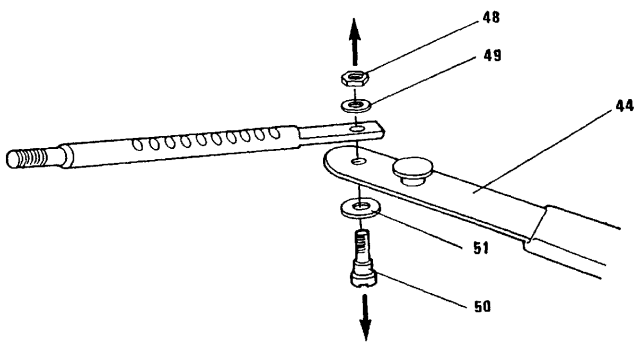
24. Take the racking system assembly.
With a 10 mm key, unscrew and remove the nut (37) ,
remove as well the retaining plate (38) and the
intermediary lever (39) .
25. Take the front needle bed support (32) upside down,
recover the three balls (40) and the washer (41) .
26. Turn again the front needle bed support (32)
upside down.
Push on the hinge screw of racking lever catch (42)
to take it out of it's location.
Pull the racking lever catch (43) towards you and
take it out.
Recover the spring (45) .

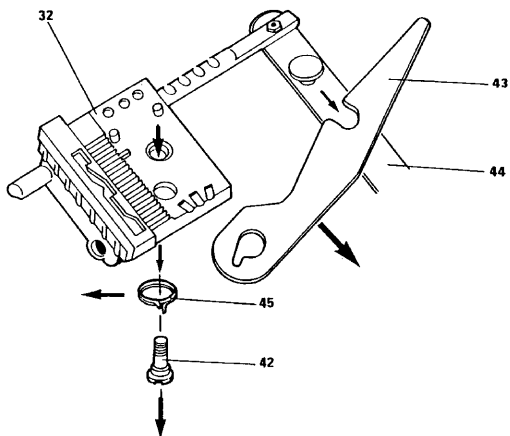
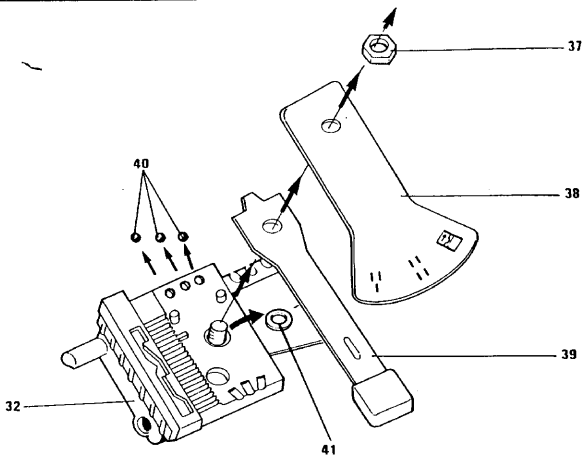


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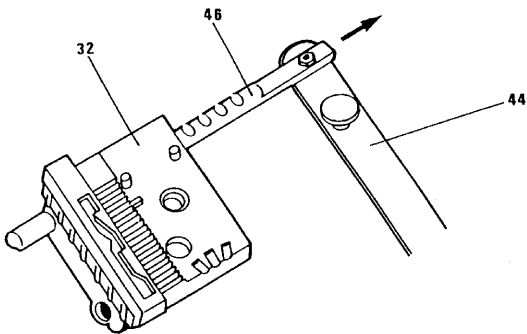


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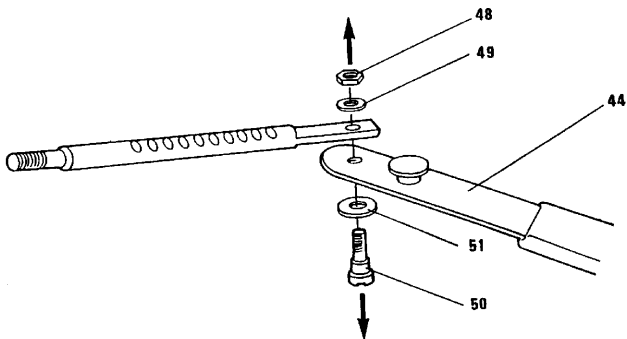




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28



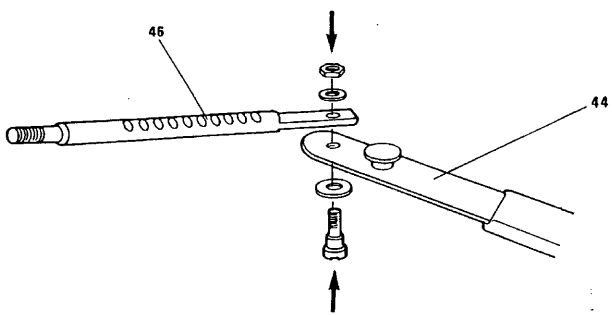
27. You can now disassemble from the front needle bed support (32) the racking lever (44) with it's racking index pin (46) .

28. To replace the racking lever (44) , you only have to loosen and remove the bolt (48) and the washer (49) just as the hinge screw of racking lever catch (50) and washer (51) .

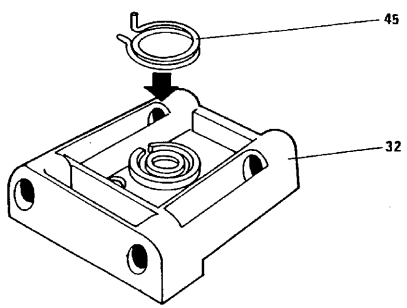
Remounting :

29. If you put them apart, assemble again the racking lever (44) with the racking index pin (46) .
30. Introduce the spring (45) in its housing on the front needle bed support (32) . Mind the way of mounting.
31. Keep the needle bed support (32) with one hand, both arms of the spring (45) are orientated to the top.
- Take the racking lever catch (43) with the other hand. Mind the way of mounting on the drawing ! Lie it on the spring (45) .
- As shown on the drawing, the upright arm of the spring is located into the slot of the racking lever catch. Then, make it swivel anticlockwise, driving this way the upright arm of the spring in rotation, the horizontal arm always stays into the needle bed support (32) .
- As soon as both clearance holes from the hinge screw of racking lever catch (42) become co axial, introduce the screw (42) . Be sure that the shoulder of this screw entered into the racking level catch and the support.
- N.B.** : This last operation can be done without problems if you hold the racking lever catch (43) and support (32) together.

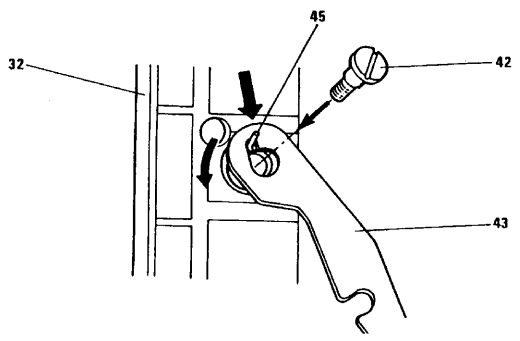
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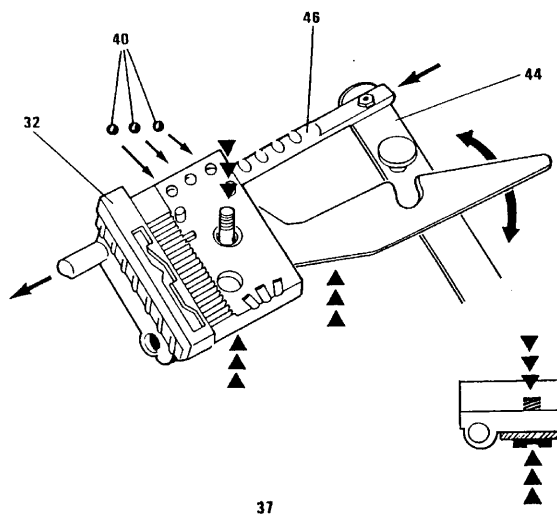
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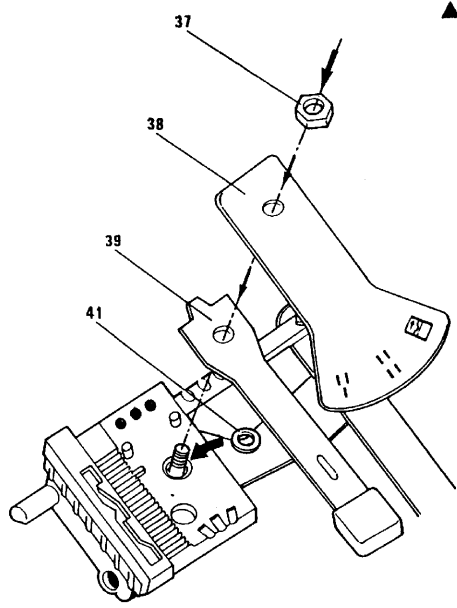
31



32



33



32. While holding the screw and the racking lever catch pressed against the support, turn the assembly inside out, and introduce the racking index pin (46) with its racking lever (44) in its housing into the support (32) .
- Lock the racking lever catch with the racking lever. Check if the spring is still in its housing by moving several times the racking lever catch. You can now release the screw.
- Lay the three balls (40) into their housings in the needle bed support.

33. Remount on the screw, the washer (41) , the intermediary lever assembly (39) then the retaining plate (38) . Maintain the assembly, and fix it with the nut (37) .

Take care of the balls !

Check the racking lever system by tightening at the same time the racking lever and the intermediary lever assembly.

The knitting machine is still fixed on the table without the front needle bed.

34. Take the racking system assembly and introduce it on the space selector shaft (34), the racking lever must pass under the shaft. Also think about remounting the eccentric (36) on the shaft.

Mind the direction of mounting !

Push the assembly towards the back of the machine to center the eccentric (36) in its housing into the left end bracket.

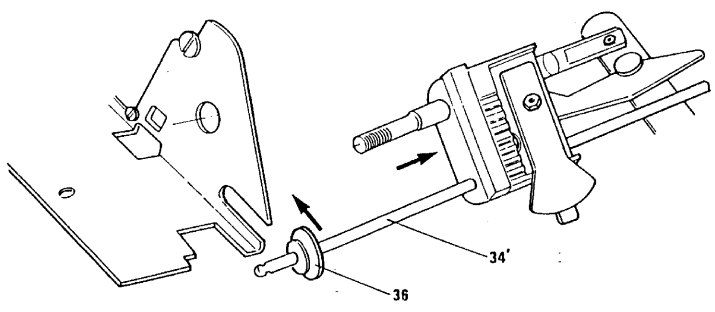
35. Swivel the racking system towards you to be able to mount the washers (33), the washer (35) and the racking index pin bushing on the racking index pin. See on the detail drawing how the washers have to be mounted. Then introduce the racking index pin into the housing of the left end bracket.

36. Set back the bed space selector hinge plate (31) on the space selector shaft (34) and the racking index pin (46). Introduce the screw (29) with its washer (30) into its housing on the bed space selector hinge plate (31) and the left end bracket. Fix the hinge plate (31) with the nut (27) and the washer (28). Notice that the clearance hole of the hinge screw (29) in the hinge plate (31) is circular whereas the one in the end bracket is-square.

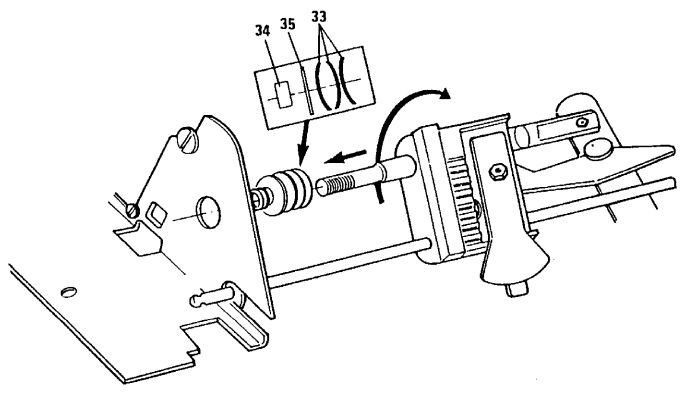
That is to be able to set the needle bed space and the height of the front needle bed with regard to the rear one.

For the moment, set the hinge plate as you please; this setting will be explained later on.

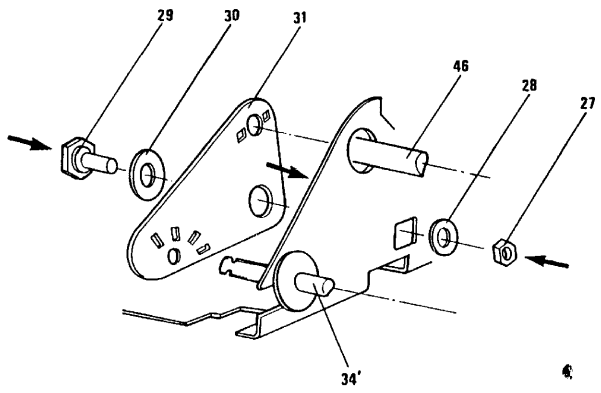
34



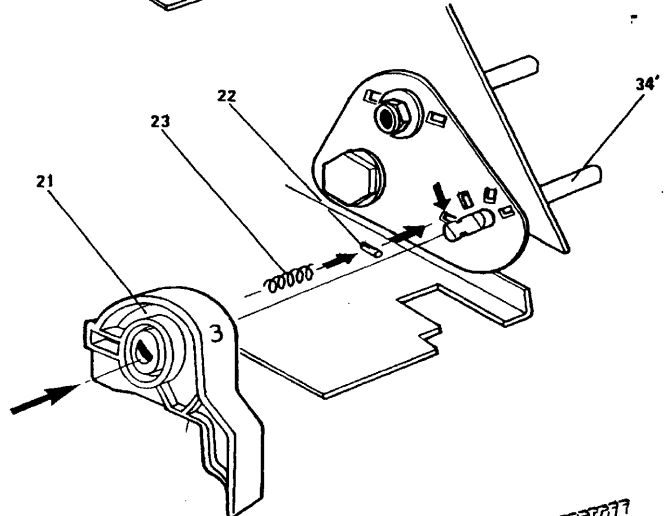
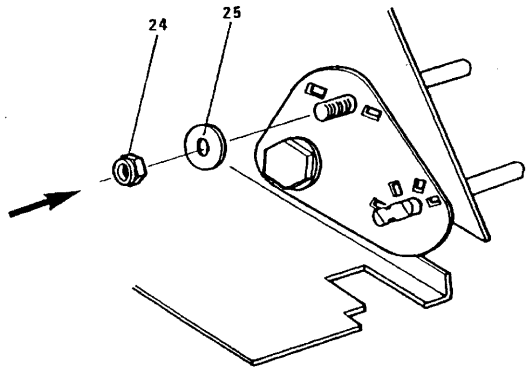
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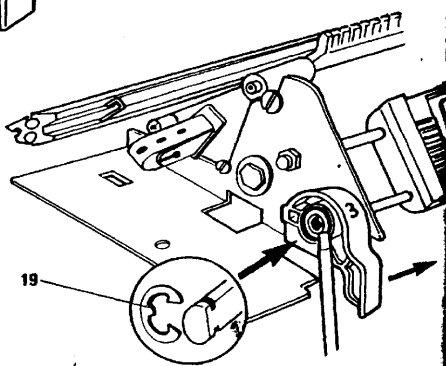
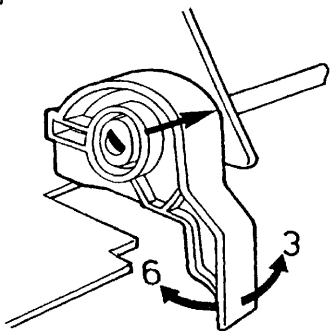
36



37



39



37. Finish the assembly of the racking system by using the nut (24) and the washer (25) .

Remark: the more you'll tighten this nut (24) , the more the washers will compress and the more the needle bed will move towards the left side of the machine.

The tightening of this nut will also be a setting (setting of the transfer position). This will be treated later on.

For the moment, tighten the nut so that the assembly is fixed on the machine, without thinking about the setting.

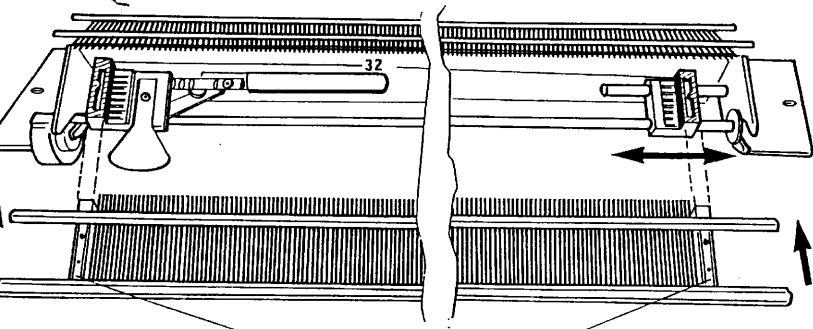
38. Now, take the space selector lever (21) . Lay the spring (23) down into its housing on the lever. Insert the lever with its spring on the space selector shaft (34) .
Before, you'll have to grease the space selector lever guide (22) and put it back into its housing (shown with an arrow on drawing (38) . The lever is in position 3. As shown on the drawing, respect the way of mounting.
39. Check that the spring and lever guide are still in their housing by moving the lever several times from position 3 to position 6: you must feel the lever guide who moves step by step.
40. Fix the system with the clip (19) . Push the lever against the left end bracket to be able to introduce the clip into its housing on the space selector shaft.

Remounting of the front needle bed:

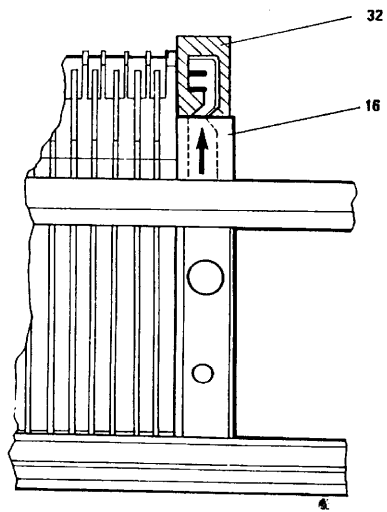
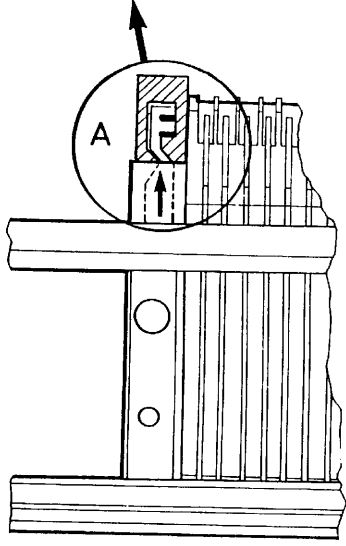
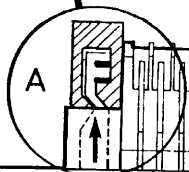
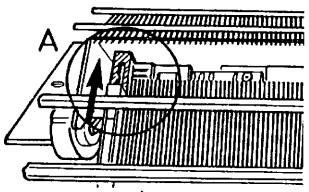
41. Take the front needle bed with both hands and sit down in front of the machine.

To make the following steps easier, remove both release assemblies. Insert the front bed guides (16) into the needle bed supports (32) : the right support is movable on the shaft. If necessary, move it towards the right or the left side, to make it coincide with the right guide.

42. When the upper edge of the bed guides (16) arrives, on the right and on the left, at the step shown on picture A , it means that the pinions on the gear shaft begin to engage into the rack of the bed support), push equally both sides of the needle bed towards the top to bring it to end of travel. Check if the front needle bed falls into line with the supports (32) . If not start again the operation.

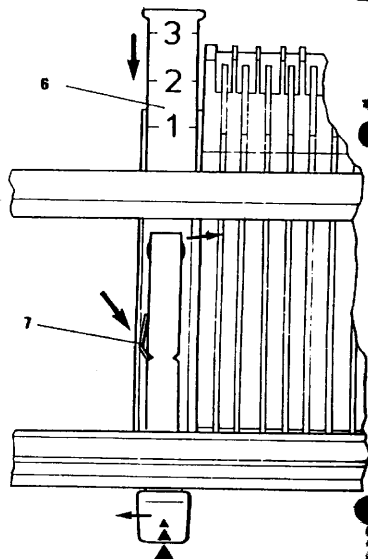
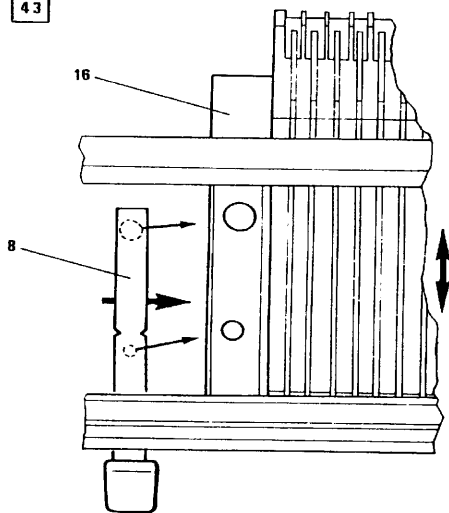


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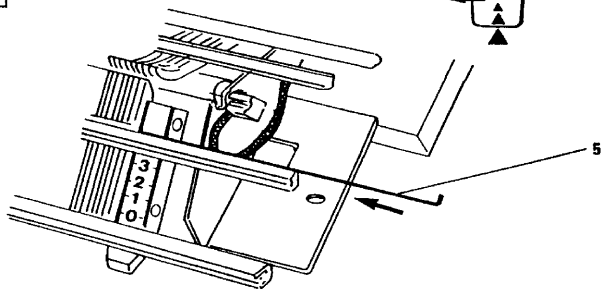


4

43



45



43. Maintain the front needle bed at the normal level: front needle bed at the same level as the rear one. At each end of the machine, pass the release lever (8) under the lower slide rail and introduce the teats from each lever into their housings in the guides (16) and the needle bed supports (23) (See detail diagramm). To facilitate the mounting of the release levers (8), move slightly the needle bed up and down.
- N.B.: You must hear a kind of "clac" to be sure that both release levers are at the right place into the supports.
44. While maintaining the release levers (8), make them swivel towards the outside of the machine to bring the upper part of the levers against the needle bed. Then remount, on each side, the release lever springs (7) and the graduated scales (6). Check that the assembly is correct by moving the needle bed up and down several times. Also controle if the front needle bed is at the same level as the rear one.
45. Finish to remount the front needle bed by putting the needle retaining wire (5), back into its location. Be sure that the bent end of the retaining wire is situated on the right side of the machine.

The retaining wire housing