

PS 410 Horizontal Movement Bush Replacement Procedure

Procedure

To replace the horizontal movement bush of the PS410, proceed as follows:

1. Turn mains power off and disconnect all cables from the rear side

2. Remove the 4 Philips screws from top cover as marked in fig. 3

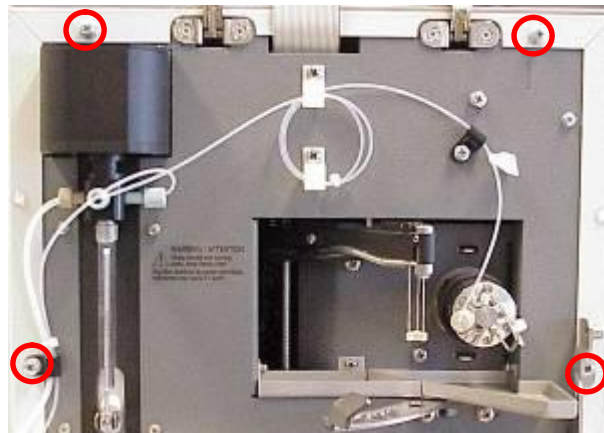


Fig. 3 Frontview from the PS410

3. Remove the 6 Philips screws from rear side as marked in fig. 4 and lift up the top cover vertical, after closing the keyboard housing.



Fig. 4 Rearview of the PS410

4. Unplug the keyboard/display ribbon cable from the mainboard

5. Remove the optical sensor for clearance including the assembling plate, by loosening the marked Philips screw

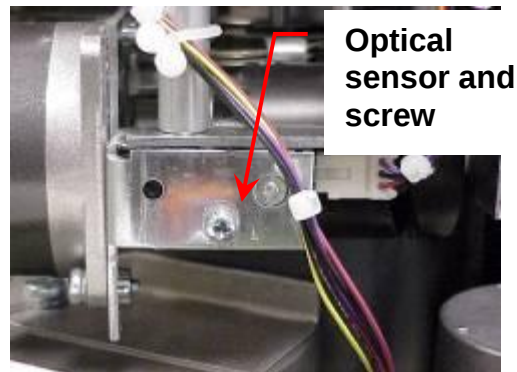


Fig.5. Removing of the optical sensor

6. Remove the 2 motor screws as marked in the fig. 6

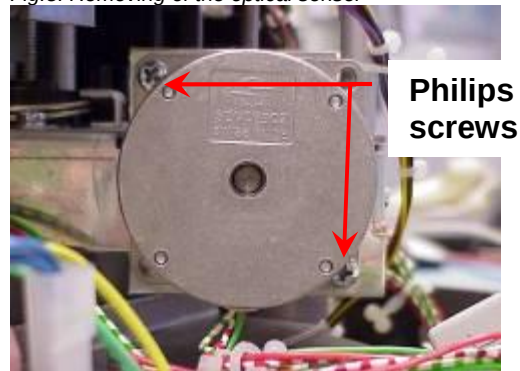


Fig. 6 Removing of the stepper motor screws

7. Slide the stepper motor and horizontal movement bush out of the instrument

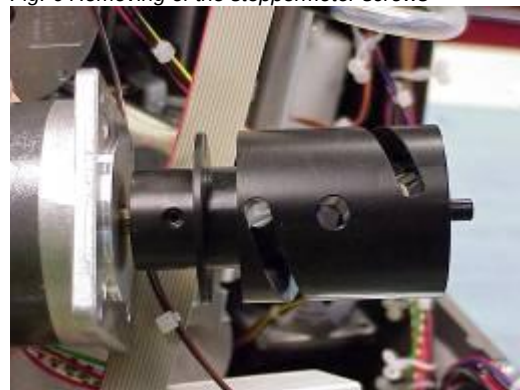


Fig. 7 Sliding the stepper motor and bush out.

8. Loosen the 2mm hex screw as marked in fig. 6 and remove the bush from the stepper motor



Fig. 8 Horizontal movement bush removed from the motor

9. Install the new horizontal movement bush on the stepper motor (do not tighten)

the hex screw) and slide it as a set into the frame

10. Slide the bush as far as possible towards the nylon bearing and tighten the 2mm hex screw as marked in fig. 9

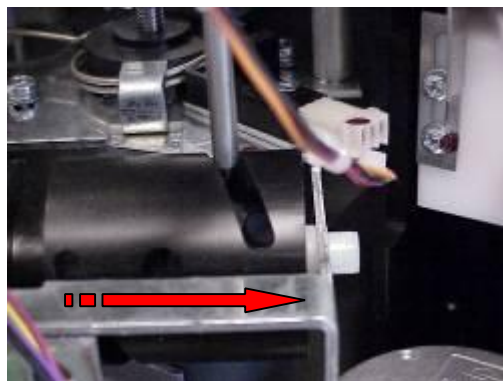


Fig. 9 Horizontal movement bush slide towards the nylon bearing

11. Re-install the optical sensor. Make sure the sensor and connecting plate is flat assembled to the frame



Fig. 10 Optical sensor flat assembled to frame

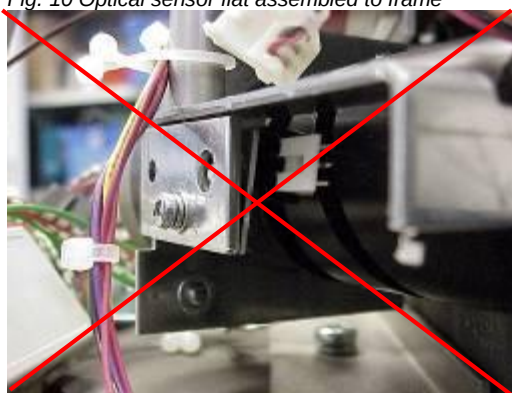


Fig 11. Optical sensor NOT flat assembled to frame

12. Reconnect the ribbon cable to the mainboard and power up the instrument

13. Check the stop position of the guiding pin in the bush. There should be no gap between the guiding pin and the end of the bush grove. Continue with step 13 if there's a gap or if the bush rotates too far and rotation will be blocked.



Fig. 12 Guiding pin of needle arm not correct at stop position of bush

14. Loosen the 2 Philips screws 1 turn and lift the motor upwards to minimize the gap. Slide the motor downwards when the bush rotates too far. Tighten 2 Philips screws and check by power off/on.

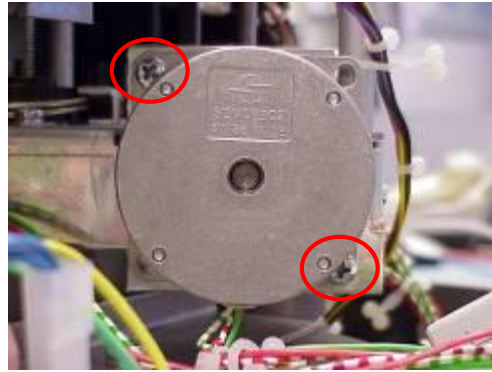


Fig. 13 Lift stepper motor up or downwards to adjust position of the bush

15. Remove the sample needle and lower the needle arm above the wash station, by using the service mode or by selecting <WASH>



Fig 14. Air needle above wash position

16. Check if the air needle is centered above the wash station and adjust if needed. The needle arm can be adjusted by loosening the 2 marked screws if fig. 15 and rotate the entire frame to get the air needle centered above the wash station. See for more details section 5.3 of the service manual

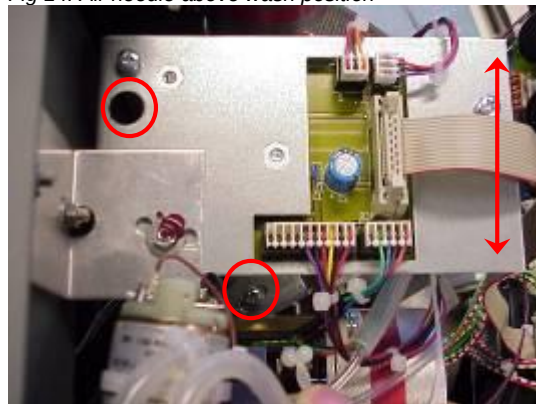


Fig 15. Position of needle unit screws to adjust needle arm

