

FOR THE LOVE OF SEWING

February 2008

Technical Update

Models; BLR - BLSO

Re; Main PC Board or Panel PC Board Replacement

Please **Do Not** replace both the Main PC and the Panel PC board at the same time. Critical information will be lost, please replace one board at a time.

When replacing a main PC board or a panel PC board, please follow this procedure:

- Remove the old PC board.
- Install the new board and insure all connections are secure.
- **Do not** enter the test mode before completing the following procedure, as all critical information will not be successfully transferred.
- Turn on the machine power and allow the machine to copy all information.
- You will see "copy, copy, copy, copy" at the top of the LCD screen. When all information transfer is completed, the machine will automatically revert to the opening screen.

BLG AND BLG2



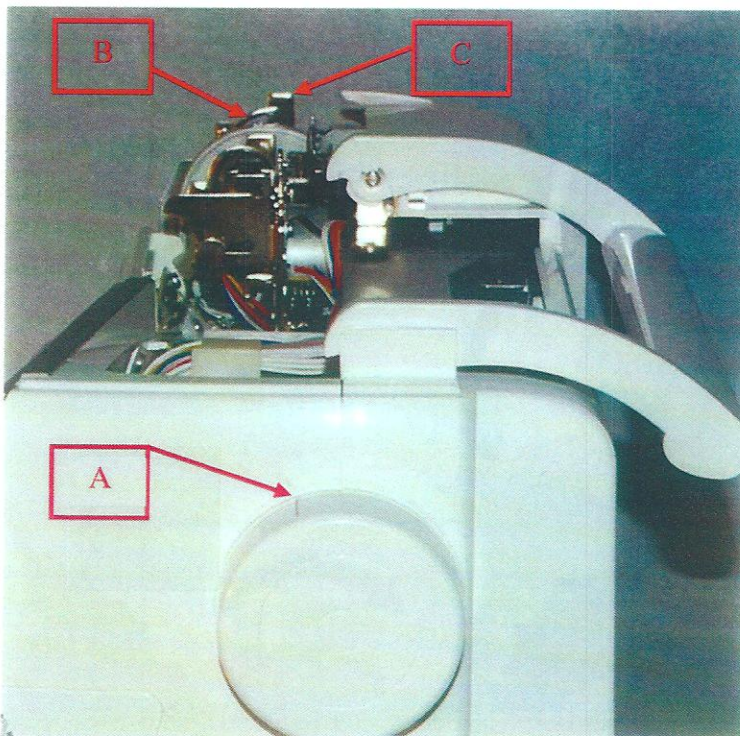
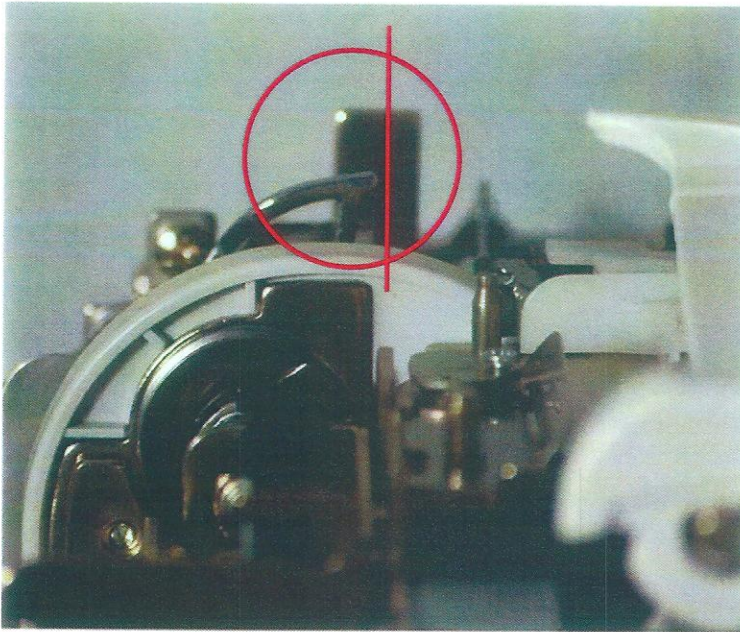
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Sewing/Embroidery Repair Procedures Checklist BLG/BLL/BLN/BLSR

1. Turn on power to the machine. Check all control settings. Check that it is upgraded to the latest version. To check the version, go the page 3 in *machine settings*.
2. Select a stitch and test the LCD screen.
3. Install a new size 80/12 needle.
4. Inspect the needle threader by using it to thread the machine.
5. Test machine by doing a quick sew-out.
6. Press the thread cutting button. Scissors should activate and cut the thread.
7. Remove the face plate.
8. Inspect the front and back position of the "J" foot opening in relationship to the needle plate opening. Remove "J" foot.
9. In test mode #4, check the center needle position. Stitch 1-03
10. Turn off the power to the machine. Remove the needle plate and inspect for scarring around the needle hole. Buff or replace needle plate if needed.
11. Remove the bobbin case and inspect for needle strikes. Check the fuzz pad. Remove debris and lint from the tension plate with the corner of a piece of paper. The BLG - BLCC bobbin cases have "green" lock down paint on the tension adjust screw, which is set from the factory at 11-13 grams. The gram setting on the "pink" embroidery bobbin case should be 18-22 grams. Using your gram gauge with 60 wt. polyester thread attached, measure each bobbin case and adjust accordingly.
12. Remove all covers except the rear cover. Clean and lubricate the machine.
13. Inspect the tension of the timing belt.
14. Inspect the tension of the motor belt.
15. Inspect the outer hook. Clean and buff if burred. Make sure there is no up/down play from the hook shaft.
16. Replace the thread cutting blade. (X80321001)
17. Reattach the front cover connectors to the main PC board.
18. Recalibrate the touch panel on the LCD screen.
19. While pressing the Stop/Start and Reverse buttons, simultaneously, turn the power back on. Go the test program 1-50.
20. Select test #4, *Left Baseline Position*. Check needle hook timing and needle bar height. For best results, put slight pressure, clockwise on the hook.

21. _____ While still in left base line position mode, adjust needle clearance with the 2mm screw on the back of the needle module. Turn machine power off.
22. _____ Reinstall the needle plate. Use the beveled set screws to align the plate.
23. _____ Reinstall the bobbin case and check the bobbin case bracket.
24. _____ Select test #6, *Feed Dog Clearance*. Check center, left and right position of the feed dogs.
25. _____ Attach shank and J foot.
26. _____ Select test #7, *Presser Foot Height*. Lower the J foot down flat against the needle plate and lower the feed dogs. Confirm that the reading is 0.0. Place a 3mm allen wrench between the J foot and the needle plate. The reading should be 3.0.
27. _____ Select test #2, *Fabric Thickness* and reset if needed. Must set 3mm first.
28. _____ Select test #7 again to confirm that the 0 and 3 are set correctly.
29. _____ Check the feed dog height. With the J foot and the feed dogs in the lowest position, turn the hand wheel one full turn until the feed dogs are in the highest position. The reading should be 0.8 to 1.0.
30. _____ Select test #25, *Tension Adjustment*. Adjust utility and embroidery setting to 0.0.
31. _____ The pre-tension plate should be adjusted to 8 to 10 grams. Lower the presser foot and adjust the brass screw on the pre-tension plate to this setting.
32. _____ While routing thread through the pre-tension and tension disks, you should get a reading of 58-63 grams. Lower the presser foot and touch the plus or minus keys on the screens until you get this reading.
33. _____ Reinstall all covers.
34. _____ Wind a bobbin and inspect the bobbin winder and stopper.
35. _____ Sew off the following:
 Test #3, *Fine Adjustment of Stitch*. Use the N foot and adjust if needed.
 Character stitches A, B & C using the N foot.
 Various decorative stitches using the N foot.
 Forward and reverse stitches (2-10, 2-03, 2-17) using the J foot.
 Buttonhole stitch 4-08, using the A foot.
 Straight stitch 1-03 using the J foot.
 Zig Zag stitch 1-10 using the J foot.
 Basting stitch 1-08 using the J foot.
36. _____ Inspect the stitch count, test #19, and record if applicable for your repair. Clear the stitch count.
37. _____ Clear the memory, test #19, only if the machine is for resale.
38. _____ Perform the following embroidery unit inspection:
 Remove the covers and clean the gears by removing lint and threads.
 Lubricate the shafts.
 Check the belt pressers.
 Check the belt tensions. They should not be excessively tight or loose.
 Adjust as needed.
 Embroider a design with an outline.

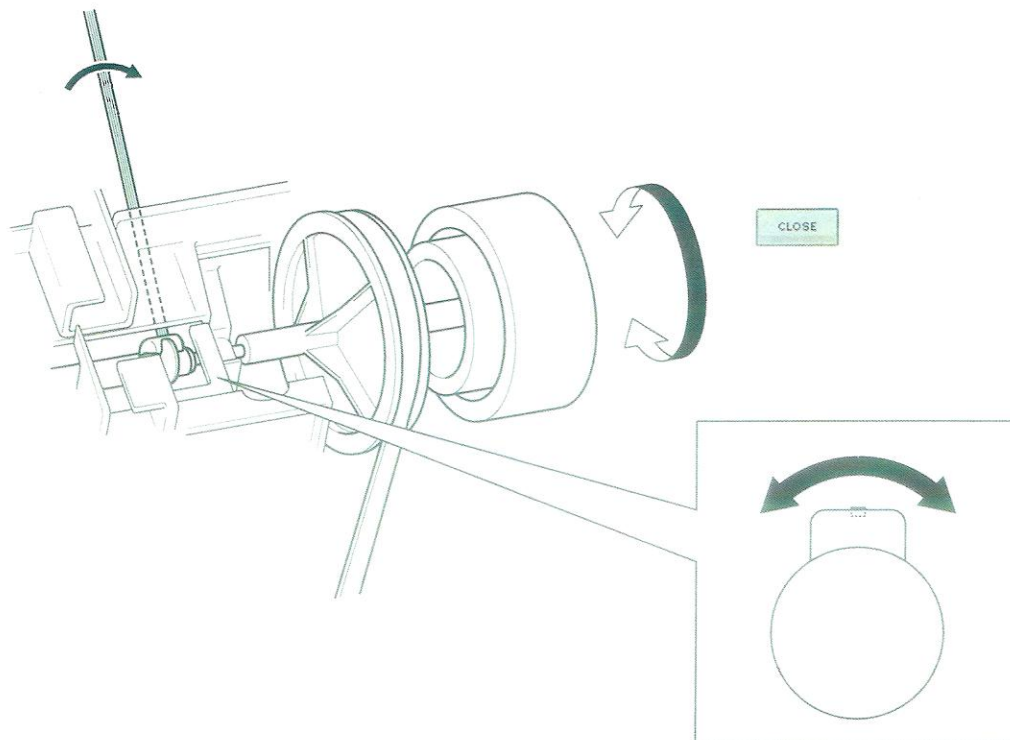
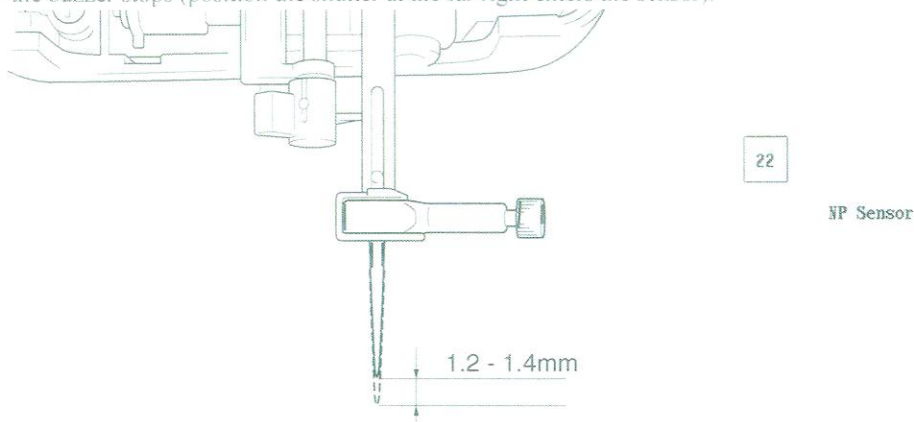
BLG – Needle Position Shutter Adjustment



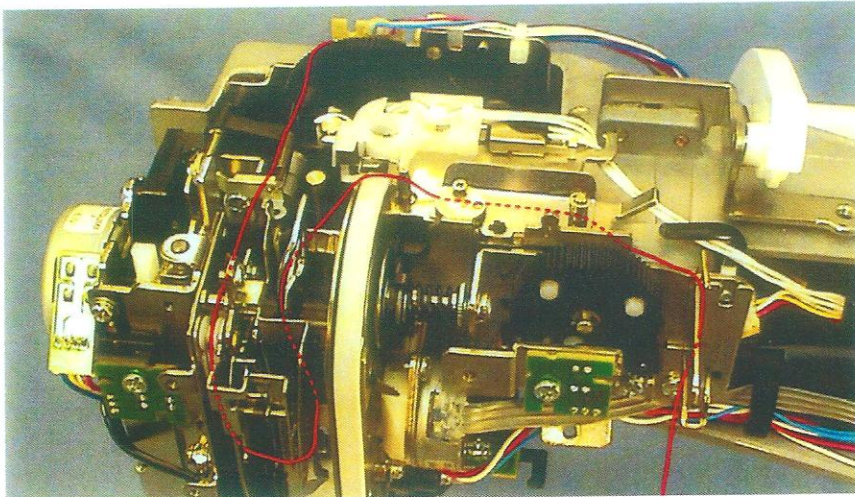
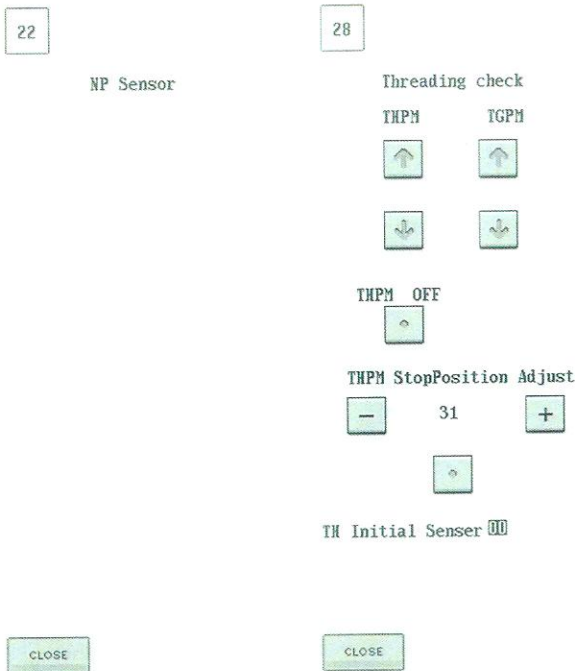
The Needle stopping position is slightly different than other BL machines. On the BLG models, when you select Needle Up, the Handwheel timing mark " A " should be positioned approximately at 11.00, and the back of the Take Up Lever " B " should stop in the center of Thread Cover Plate " C "

You should check this position while selecting both, the Needle Up button, as well as Thread Cut button.

1. Start the test mode.
2. Select test mode "22". (NP sensor mode)
3. Turn the pulley to raise the needle bar to the limit.
4. Loosen the screws securing the upper shaft rotation shutter.
5. Turn the pulley to lower the needle bar $1.3\text{mm} \pm 0.1\text{mm}$
6. Rotate the upper shaft rotation shutter in the shaft rotation direction, and secure the rotation shutter at the position the buzzer stops (position the shutter at the far right enters the sensor).



1. Adjust the needle thread block.
2. Remove the thread guide hook.
3. Turn the pulley by hand until the base line comes to the top.
4. Select test mode "22". (NP sensor mode)
5. Turn the pulley by hand until it reaches the position the buzzer stops (upper shaft rotation angle 32°).
6. Press [Close].
7. Select test mode "28".
8. As shown in the attached photo①
9. Select THPM "↓" and then lower the shuttle to the limit.
10. Turn the power off.
"continued on the next page"



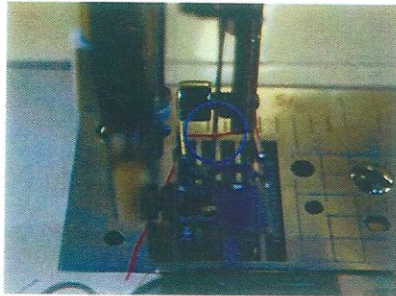
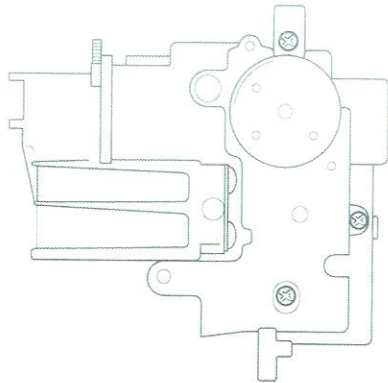
11. Loosen the 3 screws securing the shuttle, and position the shuttle as below.

② Distance from top edge of needle hole to thread
: $0.3 \text{ mm} \pm 0.2 \text{ mm}$

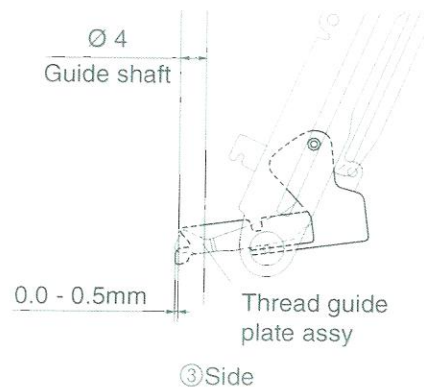
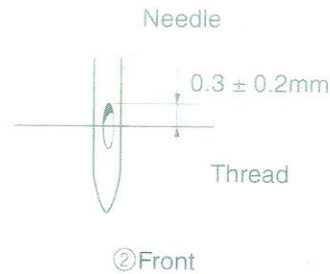
③ Length that tip of hook on thread guide plate assembly protrudes from needle threader shaft (shaft that needle thread hook is to be attached to) when viewed from side (right angle)
: $0 - 0.5 \text{ mm}$

12. Tighten the 3 screws to secure the shuttle.

13. Attach the thread guide hook.



④



NOTE

- As a result of the above adjustment, both ends of the thread are positioned behind the needle, resulting in the thread curving at the needle as shown in the attached photo④ (correct state).
- When positioned too far in front (curvature too small), the thread will be chipped or threading failure will occur.
- When positioned too far behind (the thread guide plate assembly contacts the needle thread hook), threading failure will occur.
- Main PCB is likely to be damaged when tool touch the PCB attached THPM. When adjustment, turn the power off surely.