

## *EVG 620 Procedures for Bottomside Alignment*

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1. Follow all set-up procedures for Topside Alignment.
2. Open your existing recipe or create a new one and select the following:
  - a) **Process** » “Man Bottomside”
  - b) **Process Mode** » “Crosshair”
  - c) **Proximity** » “Off”
  - d) **Stop After Contact** » “Check Box for Yes”
3. Select “Run” on the recipe window
4. Tool will instruct: **“Begin of Process - Press <Continue or Exit>”**
  - a) Press “<Continue>” to move forward
  - b) Press “<Exit>” to go back
5. Tool will instruct: **“Insert Mask Holder and press <Continue>”**
  - a) Press “<Continue>”
6. Tool will instruct: **“Insert Chuck, Connect Vacuum and Press <Continue>”**
  - a) Decide which Chuck you will need to use.
  - b) Place either the 2” Glass Chuck or 4” Wafer Chuck on stage. Connect the vacuum hose to the chuck.
  - c) Press “<Continue>”.
7. Tool will instruct: **“Insert Load Frame and Press <Continue>”**
  - a) Place the load frame on the tray. The identifying sticker should read: “Loading Frame 5” BM620036A #11”.
  - b) Press “<Continue>”
8. Tool will instruct: **“Insert Mask and Press <Continue>”**
  - a) Place a 5” mask between the three white plastic pins (chrome side up).
  - b) Press “Continue.”
  - c) Gently “Move Tray in”
9. Tool will instruct: **“Move Stage to Center Position and Press <Continue>”**
  - a) Reset all 3 Micrometers to the Zero position
  - b) Press “<Continue>”

**10. Tool will instruct: "Adjust Mask and Press <Continue>"**

**NOTE:** You are now using the bottom optics for alignment position. The optics move individually in "X, Y & Z" directions.

- a) Adjust alignment and focus using the joystick. The focus should be approximately "**Left side 10.75" and "Right side 10.35"**.
- b) Adjust the "Y" optic position to be +/- .02 of left and right side. This is critical for optimal alignment. Do not move "X & Y" direction after "Y" is set. **Use joystick for focus ONLY.**
- c) Use ONLY Micrometers for adjustment of Mask alignment marks.
- d) Press "<Continue>"
- e) Gently "Move Tray out"

**11. Tool will instruct: "Remove Load Frame and Press <Continue>"**

- a) Remove "Load Frame"
- b) Press "<Continue>"
- c) Gently "Move Tray in"

**12. Tool will instruct: "Adjust Microscope to Mask and Press <Continue>"**

- a) This step is for FOCUS ONLY and is very critical. Focus cannot be adjusted again after this step. The focus should be approximately "**Left side 9.25" and "Right side 8.65"**.

**NOTE: OPTIC MOVEMENT AFTER CROSSHAIR ADJUSTMENT CAUSES MISALIGNMENT!**

- b) Press "<Continue>"

**13. Tool will instruct: "Adjust Crosshairs and Press <Continue>"**

- a) Using the trackball, Click on crosshair and drag it to the center of the mask alignment mark for crosshair overlay on each side. In the control menu you can choose between the left and right crosshair. For fine adjustment, press the "up/down" and "left/right" buttons in the control menu. For larger adjustments, select "slow" in the control menu and it will change to "fast". You can also adjust the "length" and "width" of the crosshairs from the control menu. Continue to make adjustments until desired alignment is achieved.
- b) Press "<Continue>"
- c) Gently "Move Tray Out"

**14. Tool will instruct: "Insert Substrate and Press <Continue>"**

- a) Load your substrate with the resist coated side face up.
- b) Gently "Move Tray In"

15. Tool will instruct: **“Adjust Substrate and Press <Continue>”**
  - a) Load your substrate with the resist coated side face up.
  - b) Gently “Move Tray In”
  - c) Tool will instruct: “Adjust Substrate and Press <Continue>”
  - d) Adjust substrate by aligning to crosshairs. Verify alignment before proceeding by using the “Cont/Sep” button to put substrate and mask in contact. Continue to make adjustments until desired alignment is achieved.
  - e) Press “<Continue>”. The tool will now “Stop After Contact”. Verify your alignment again. If alignment is good, “<Continue>” to expose. If you need to re-align, press “<Undo>” to adjust alignment.
  - f) Gently “Move Tray Out” after exposure is complete
  
16. Tool will instruct: **“Remove Substrate and Press <Continue>”**
  - a) Remove your substrate
  
17. Tool will instruct: **“End of Process - Press <Continue> or <Exit>”**
  - a) Press “<Continue>” if you have more than 1 sample to align and follow all tool instructions
  - b) Press “<Exit>” if you are ready to exit software and logoff
  
18. Tool will instruct: **“Insert Load Frame and Press <Continue>”**
  - a) Insert “Load Frame”
  - b) Press “<Continue>”
  - c) Gently “Move Tray In”
  
19. Tool will instruct: **“Move Stage to Center Position and Press <Continue>”**
  - a) Reset all 3 Micrometers to the Zero position
  - b) Press “<Continue>”
  - c) Gently “Move Tray Out”
  
20. Begin Exit and Shutdown process.
  - a) Remove “Load Frame”
  - b) Close your recipe
  - c) Park Tray
  - d) Logoff
  - e) Complete logsheet