

JEOL 2100F TEM/STEM

TEM Start-Up and Alignments

Start up

1. Check that the Ion pump is on (green light).
2. Fill out user logbook and login to computer.
3. Fill out LN logbook.
4. Fill up the specimen anti-contamination device (ACD) with LN

Alignment 1

Obtaining Illumination

5. Press the “Beam Valve” switch (V1 valve).
6. Insert the correct condenser aperture
7. Go to crossover with the **Brightness** knob.
8. Center the beam using the **Shift X, Y** knob.

Alignment 2

Condenser Aperture Centering

9. Go to crossover with the **Brightness** knob.
10. Center the beam on the fluorescent screen with the **Shift X & Y** knobs.
11. Enlarge the beam diameter to about 80% of the fluorescent screen.
12. Center the beam with the **X & Y fine controls** on the condenser aperture

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Alignment 3

Specimen Height and Focus

13. Increase the magnification to 100kx.
14. Press the **Standard Focus** button.
15. Over focus the **Brightness** knob (clockwise) to fill the screen.
16. Center a point of interest on the specimen.
17. Press Image Wobbler X & Y button.
18. Adjust the **Z-Control Up or Down** buttons to minimize the specimen motion.
19. Turn the **IW X & Y** off.

Alignment 4

Voltage Centering

20. Increase the magnification to 200kx.
21. Go to crossover with the **Brightness** knob.
22. Center the beam with the **Shift X & Y** knob.
23. Over focus the **Brightness** (clockwise) to fill the screen.
24. Center a point of interest on the specimen.
25. Press the **HT wobbler** (High-Tension) button.
26. Press the **Bright Tilt** knob and adjust the **Def/Stig X & Y** knob to stop any shifting of the image.
27. Turn the **HT wobbler** knob off.

Alignment 5

Condenser Stigmator

28. Go to crossover with the **Brightness** knob.
29. Press the **Cond Stig** button.
30. Adjust the crossover spot with the **Def/Stig X, Y** knob
31. Repeat if necessary.

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Shutdown

32. Magnification to 20k.
33. Open the Bean to fill the screen.
34. Turn off **Beam Valve**
35. Open all apertures
36. Double click **Stage Neutral**
37. Remove sample.
38. Heat up LN (follow instruction)