



Cryo-EM Merit Badge Independence Checklist

A Collaboration Among the NIH-Funded Cryo-EM National Centers

Grid Clipping Independence Test Evaluator Checklist – CryoEM Merit Badges

Trainee: _____

LN2 handling

- ☐ ☐ Proper PPE is worn (gloves, goggles, face mask)
- ☐ ☐ Minimize spills when pouring

Preparing tools

- ☐ ☐ Autogrid accessories: C-clips, autogrid rings, buttons, Autogrid forceps, fine-tip forceps, C-clip insertion tool, grid box tool.
- ☐ ☐ Load C-clips into insertion tools.
- ☐ ☐ Visually confirm that the clip is in the tool.
- ☐ ☐ Cool down station and tools.

Clipping Grids

- ☐ ☐ Clip grids.
 - ☐ ☐ Clip faces right side up.
 - ☐ ☐ Grid centered in the clip.
 - ☐ ☐ Stage rotated to position the loaded tool properly into the clip.
 - ☐ ☐ Tool placed into hole, sitting flat against ring.
 - ☐ ☐ Plunger pushed to eject C-clip.
 - ☐ ☐ Stage rotated back into position to inspect clipping.
- ☐ ☐ Examine each clipped grid before transferring into a box.
- ☐ ☐ Transfer autogrids into boxes facing the correct direction.
- ☐ ☐ Maintain LN2 level during clipping.
- ☐ ☐ Do not reuse tools unless they are warmed and dried first.

Cleaning Up

- ☐ ☐ Warm all cold tools.
- ☐ ☐ Remove aluminum and brass pedestal to warm and dry.
- ☐ ☐ Dispense of nitrogen from the clipping station appropriately and leave to warm up.
- ☐ ☐ Store clipped grids in closed boxes in an appropriate puck or transfer to autoloader cassette.
- ☐ ☐ Return all tools to proper place and leave bench clean.
- ☐ ☐ Do not leave any clips or clip rings loose in the station or on the bench.

Supervising Staff 1: _____

Date: _____

Supervising Staff 2: _____

Date: _____