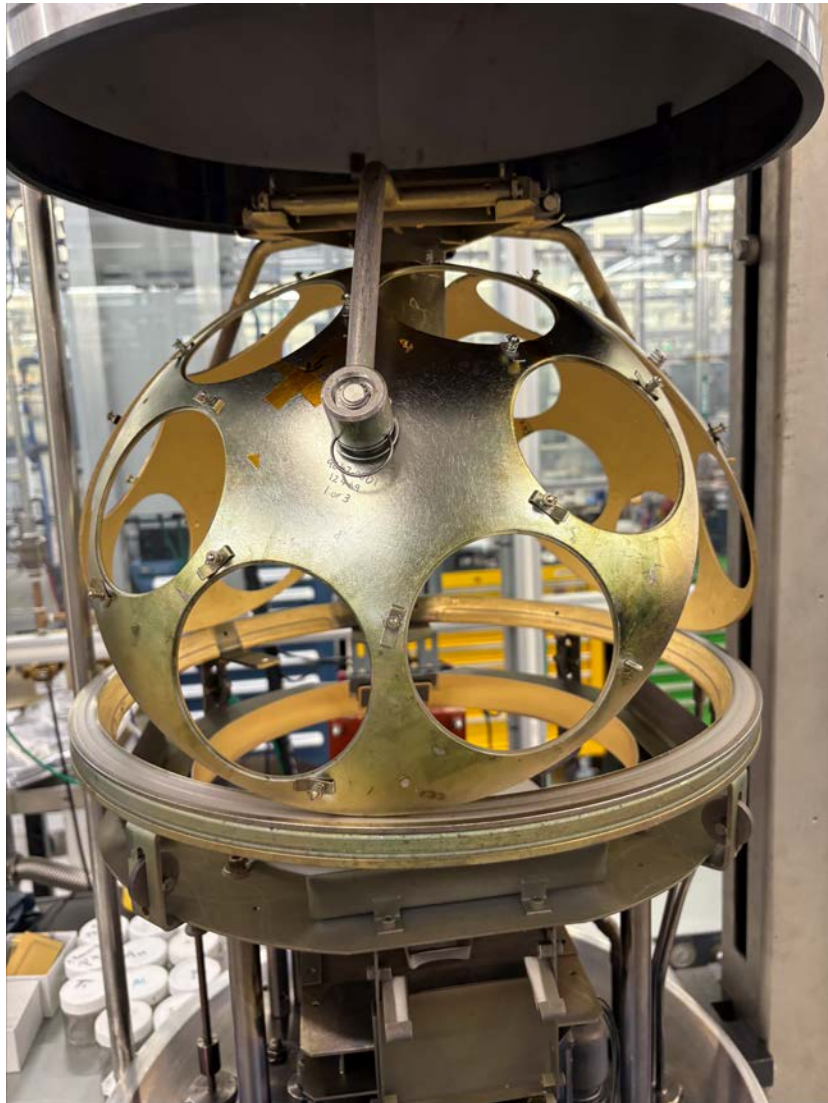


EBeam4 Planetary Fixture S.O.P.



You must have an EBeam4 reservation in SUM, and an EBeam4 Planetary Fixture Reservation in SUM for the same time slot(s) as EBeam4's reservation.

The user who makes the EBeam4 reservation MUST be the same user who makes the EBeam4 Planetary Fixture reservation, and MUST be the user who is running EBeam4 with the Planetary Fixture.

Installation:



1. With the chamber open, uninstall the Uniformity Shield by removing the bolt securing it to the chassis.



2. Next remove the Lift-Off Carousel.



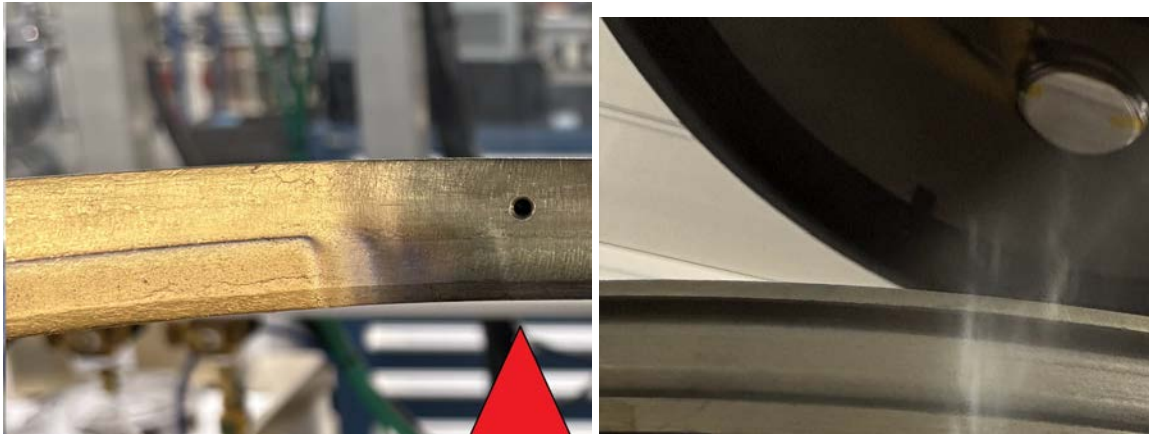
3. Locate the Planetary Fixture parts in the bottom drawer marked “EBEAM#4”, across from EBeam3.



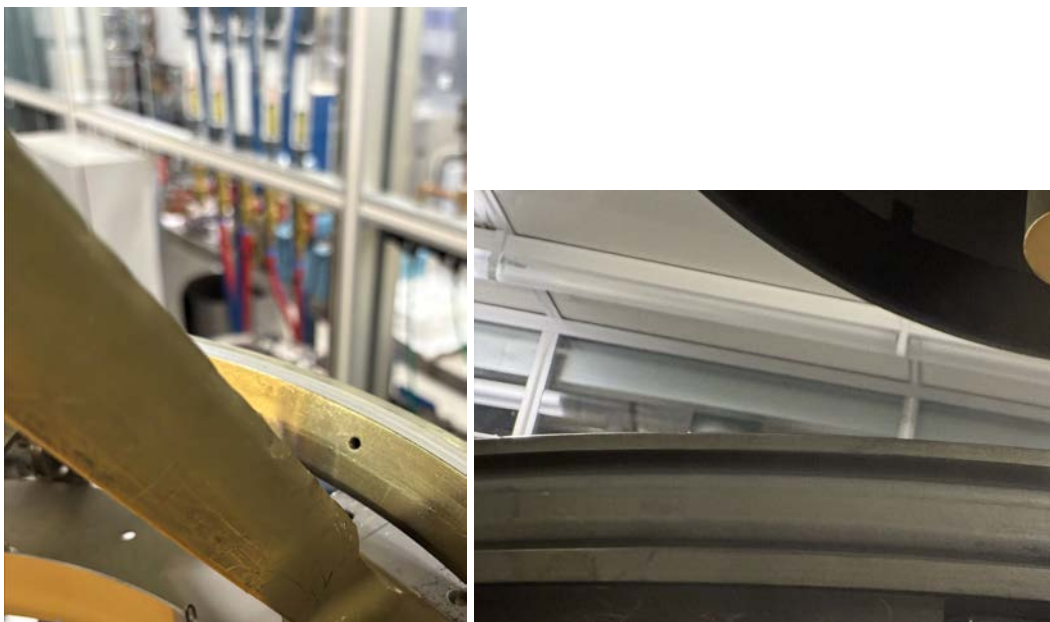
4. Locate the Planetary Fixture Beam inside the drawer, and the jar containing the Planetary Bolts, also located inside the drawer. (If the jar is not located inside the drawer, a previous user may have left the jar on top of EBeam4)

If the Planetary Bolts appear to be worn out, DO NOT use them.

There should be plenty of bolts in the jar, if you find one that is worn out, discard it.



5. Locate the Planetary Bolt holes (the bolts will thread in from the underside of the Rotation Ring).



6. Hold the Planetary Beam in position under the Rotation Ring, and thread the Planetary Bolts into the Planetary Bolt holes by hand. Turn the Planetary Bolts in as far as you can by hand before proceeding to the next step.



7. Locate the torque wrench inside the drawer and make sure the Hex head socket is attached. (If socket is not attached, locate the socket and attach it.)
Turn on the torque wrench by pressing the power button, and once it has initialized, it will automatically set for 10.5 ft.-lb.



8. Apply torque to both Planetary Bolts, and rotate the wrench at a constant moderate speed until alerted to stop by the handle vibration.

DO NOT USE THE TORQUE WRENCH TO REMOVE THE BOLTS!



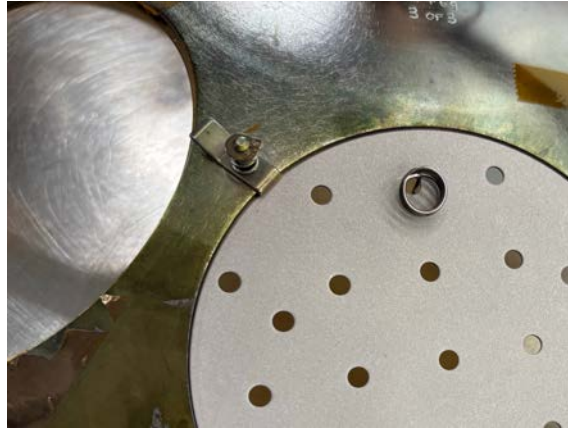
9. Press and hold the Power button on the torque wrench, until it turns off. Once the torque wrench is off, return it to the drawer.



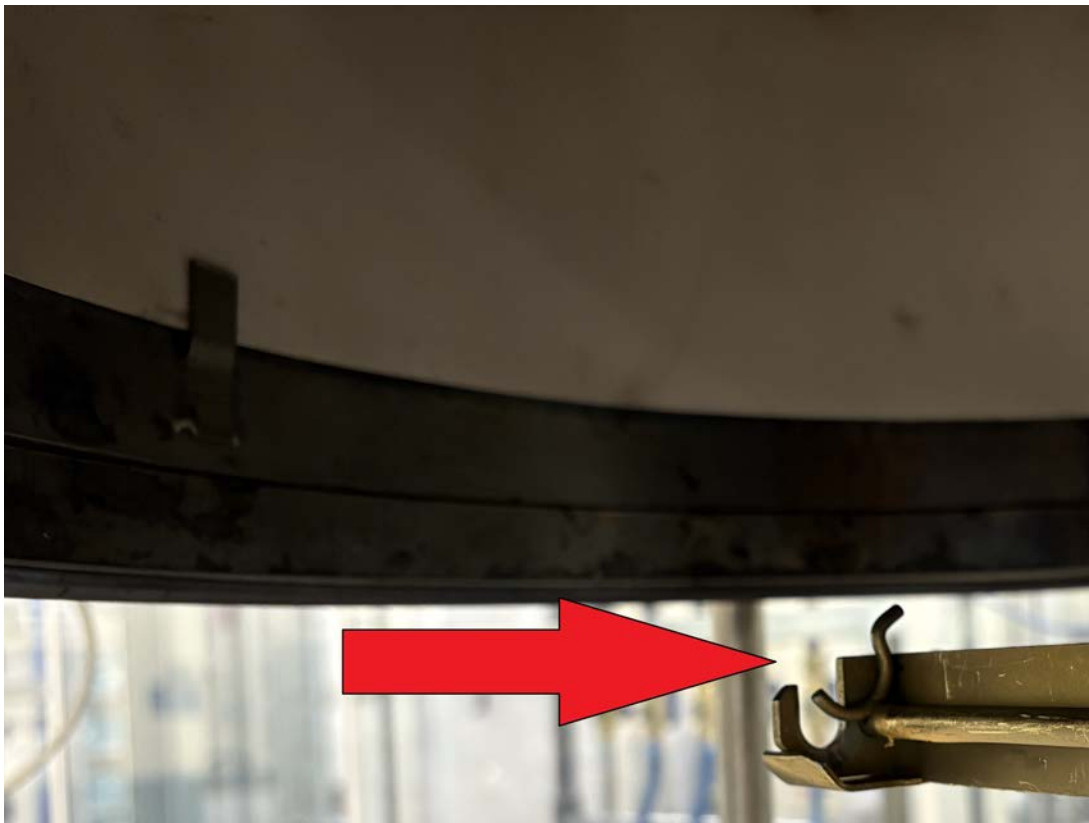
10. Once both Planetary Bolts have been installed, locate the 3 Planetary Fixture Arms that you will be using.



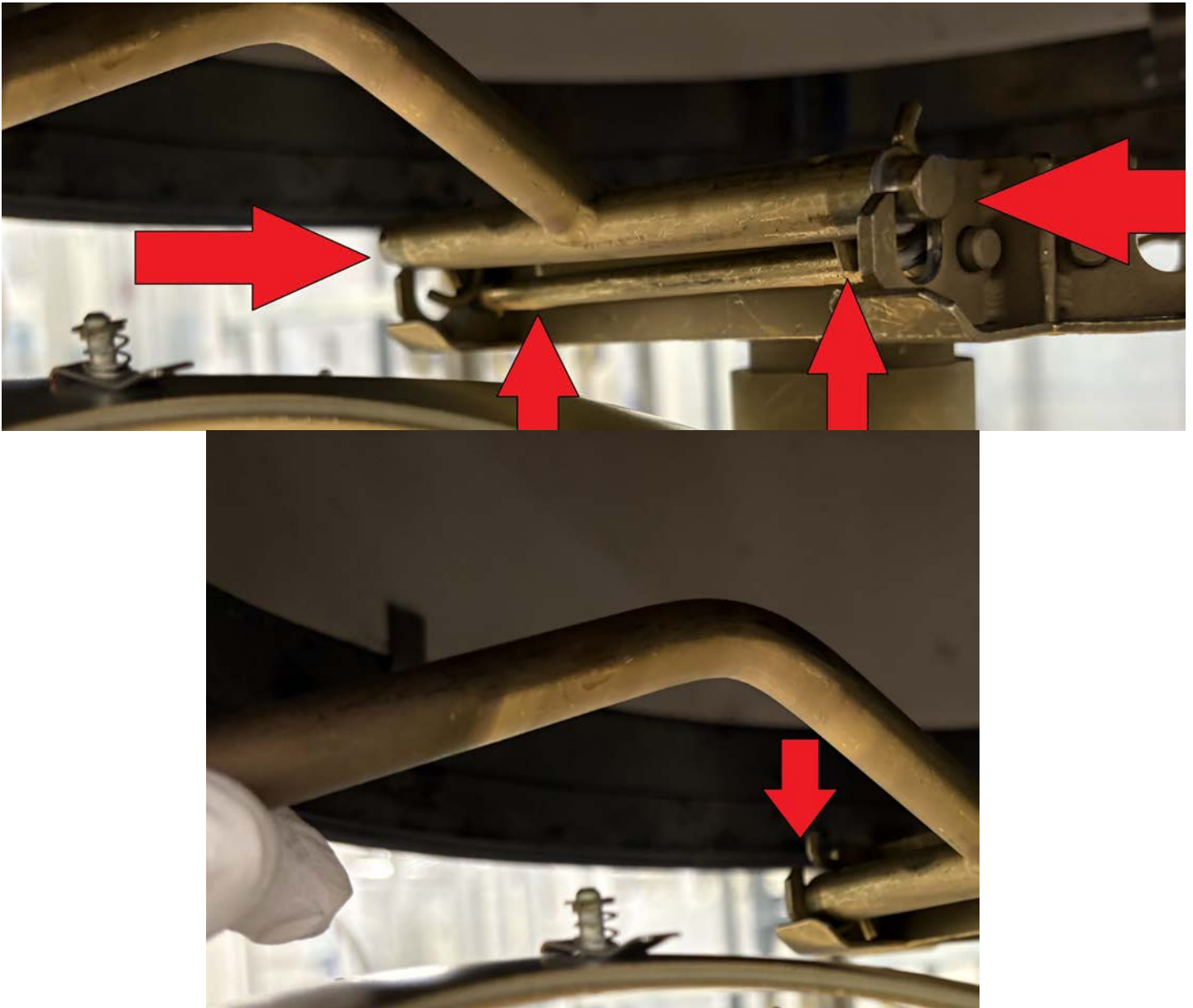
11. Inspect all 3 Planetary Fixture Arm/dish retainer clips. See illustrations for correct positioning. **Incorrect positioning of the retainer clip will cause the dish to separate from the arm. If this occurs while in motion inside the chamber, it will result in catastrophic damage to the dish and chamber liner.**



12. Only use the correct size fixture Plates to populate the fixture openings in the Planetary Fixture Dishes. Using fixture Plates that are not the correct size can/will result in damage to the chamber liner and/or Planetary Fixture Dish.
The Planetary Fixture Dish uses the same fixture Plates as the standard Rotation Dome.
Fixture Plates may be borrowed from the standard Rotation Dome, but **MUST** be returned to the standard Rotation Dome upon completion of your run.



13. On the Planetary Fixture Beam, Lift the pins on the Planetary Arm Receiver as shown in the illustration.



14. Insert the Planetary Fixture Arm into the Planetary Arm Receiver, while keeping the Planetary Fixture Arm pins below the Receiver's pin cross bar. (top illustration)
This is achieved by lifting up on the Dish side of the Planetary Fixture Arm.
Once in position correctly, lower the Planetary Fixture Dish onto the Rotation Ring.

* Repeat this step until all 3 Planetary Fixture Arm's are installed.

All 3 Planetary Fixture Arm/Dish's MUST be installed for balance during rotation.



15. With all 3 Planetary Fixture Arms installed, close the chamber and switch the Rotation controller to Manual. Verify the Planetary Fixture is rotating inside the chamber and there are no metal on metal sounds from inside the chamber.
16. Switch the Rotation Control from Manual to Auto prior to starting your deposition.
17. See the EBeam4 SOP for deposition instructions.

Un-installation:

1. Upon completion of your deposition, open the chamber as per EBeam4 SOP.
2. Remove the Planetary Fixture Arms in reverse order of Step 14 of the Installation SOP.
3. Remove your samples/wafers/parts from the Fixture Plates and return the Fixture Plates to the standard Rotation Fixture that were borrowed from it.



4. Locate the Planetary Fixture Breaker Bar and ensure that the Hex Head Socket is attached to it.



5. Use the Planetary Fixture Breaker Bar to remove the 2 bolts securing the Planetary Fixture Beam to the Rotation Ring.

DO NOT Use the torque wrench to loosen the Planetary Bolts!



6. Re-install the Lift-Off Carousel.



7. Re-install and align the uniformity shield as per EBeam4 SOP.