

Chamber mechanical inspection before DAQ test

Date _____ Site _____ Chamber type: ME ___/___ Chamber number _____

1. Overall visual inspection

- Inspect the chamber for any visible mechanical damages after transportation (deformation, scratches, cracks etc.). If any electronics cover is damaged, remove the cover and inspect the boards under the cover. All damaged board must be replaced with spare.

Comments:

2. Gas inlet/outlet

- Wiggle the outlets left/right parallel to the chamber surface.
- Special brass **nut** and **ferrule** attached to the gas outlet.

Comments:

3. Loctite

- Apply Loctite **290**, independently of what you find in step 2 (see Instructions **XXX**)

Comments:

4. Screw tightness

Chamber side covers have M6 screws with washers. Use 10 mm screwdriver socket and a torque wrench. The maximum allowed torque is 24 lb/inch. In case of broken thread use special tools and instructions for repairing the thread (XXX).

- Cathode (wide) side (e.g., 12 screws for ME234/2)
- HV connector side (e.g., 34 screws for ME234/2)
- Chamber narrow side (e.g., 16 screws for ME234/2)
- Anode Readout side (e.g., 34 screws for ME234/2)
Remove AFEB cover to open the chamber side cover (e.g. 12 screws for ME234/2). And leave it open.
- Cooling plate screws - use 5 mm Hex screwdriver.

Comments:

Comments:

- AFEB-ALCT cables strain relief bar - use 5 mm Hex screwdriver
- AFEB-ALCT cables strain relief (green) - use 8 mm screwdriver socket and a torque wrench.
The maximum allowed torque is 16 lb/inch.
- LVDB and AL CT cover - use Phillips #2 screwdriver.

Comments:

5. CFEB input cable inspection. Take off CFEB cover (use Phillips #2 screwdriver).

- Inspect visually the input cable connection order, the input cables integrity (isolation @connectors damages), CFEB input connectors integrity. Use a flash light for inspecting cable connection on the chamber side.

Comments:

6. CFEB output connectors

- If the chamber has CFEBs with locked screws on the output connectors, just insure that everything is OK.
If the chamber has CFEBs with loose and/or not fixed screws on the output connectors, you must tighten screws and apply loctite **290**. Follow procedure **XXX** (B.Bilsma).

Comments:

- Put on CFEB cover (use Phillips #2 screwdriver).

7. AFEB inspection

- Check AFEB fixation screws. Use Phillips #1 screwdriver (option flat 3 mm).
- Check AFEB bracket M4 screws. Use 7 mm screwdriver socket and special cordless screwdriver (Black and Decker). Allowed torque is pointed on the attached label.
- Check the cable grounding lag tightness.
- Check cable connection and cable position - cable must go along the AFEB side. Cables should not go over latches. (Use the cable installation instructions **XXX**).
- Put on AFEB side cover (12 screws for ME234/2). Use 10 mm screwdriver socket and a torque wrench. The maximum allowed torque is 24 lb/inch

Comments:

8. ALCT inspection

Take off the ALCT covers. Use Phillips #2 screwdriver.

- Check tightness of the ALCT and the ALCT MB fixation screws and nuts. Use 5mm socket, Hex screwdriver 3 mm, Phillips screwdriver #2.
- Check integrity of the ALCT input connectors (missing latches, broken-off plastic pieces)
- Check cable connections (all cable connectors must be properly inserted and latched)
- Check cables position - all cables must go between connectors. Cables should not go over latches.
- Check AFEB-ALCT cable (Jacket integrity, harness tightness).
- Check connection of the ALCT test cables (6 blue RF cables).
- Put on the ALCT cover above the input cables (MC000022A). Use Phillips #2 screwdriver.

Comments:

9. LV cable harness

- Inspect the harness. The obsolete version of the harness must be replaced with new one (the obsolete one has no cable labels)

Comments:

10. DAQ cable connection.

- Connect all DAQ cables to the corresponding CFEBs and ALCT
- Connect LVMB control cable. Set all switches on the LVMB to the LOW position.
- Connect HV cable.

Comments:

Note: All electronics covers must be closed for tests with power "ON".

Date: _____

Operator: _____

Signature _____