



*LIGO Laboratory / LIGO Scientific Collaboration*

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**LHO HAM6 Septum Plate Installation Checklist**

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LIGO Science Collaboration

This is an internal working note  
of the LIGO Project.

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Consider the hazards associated with the activities described below. Being in close proximity to large masses in motion presents ample opportunity for injury if participants are not communicating their intent. In addition to injuries, damage to equipment can result if actions are taken hastily or without readying your coworkers. Take your time and visualize each activity prior to taking action. Make sure everyone involved understands the intent and the process of each step.

- Take RGA scan of vertex volume
- Soft close GV5 and GV7
- Vent vertex following procedure LIGO-E000119-A-V
- Position cleanroom over HAM6
- Close HAM 6 annulus ion pump isolation valve
- Remove North door of HAM6
- Decouple vertex Main Turbo and Blower pump from MC tube and floor and remove them from work area
- Rig MC tube as shown and with indicated loads
- Install MC tube bellows tie-rods
- Install HAM6 bellows tie-rods
- Remove bolts coupling HAM 6 to MC tube
- Transfer MC load from stands to rigging
- Retract MC tube
- Install 1.38" + 1" aluminum spacer block pairs
- Transfer MC load from rigging to stands
- Use overhead crane to suspend septum plate
- Remove foil, inspect plate and O-rings and install O-rings
- Remove 10" blank flanges from septum plate
- Position septum plate, install several flange bolts (hand tight)
- Transfer plate load from crane to flange bolts
- Rerig MC tube
- Transfer MC load from stands to rigging
- Remove 1" aluminum spacer blocks
- Relax tie-rods
- Tighten septum flange bolts
- Install 10" blanks and viewport
- Reconnect vertex main turbo pump and roughing pump
- Pump down vertex
- Leak check septum plate port welds, conflat and viewport O-ring and annulus