

# OMC/OMCS installation plan (K. Arai / J. Lewis), Oct 11, 2013

## LIGO-L1300210

### Preparatory work

#### LVEA preparation

Description: Setting up a cleanroom and a stable table near HAM6.  
Person: Jeff L talk to Mike L  
Time: TBD  
Tools: HEPA enclosure / (Optical) Table / Class B Tools / Al foil

#### HAM6 door removal

Description: Remove HAM6 door / Prepare HEPA booth & purge air  
The end door (East side door) to be removed  
=> ISCT6 installation should be done later.  
Person: Jeff L talk to Mike L  
Time: TBD  
Tools: ---

# 1st day

## Metal bench OMCS transport to LVEA

- Location: Staging building? - LVEA
- Description: Clamp down all the masses. Release the tension of the wires.  
Carry the OMCS to LVEA with a carrier enclosure
- Person: Jeff B, Jeff L, Koji A, Fork Lift driver (TBD)
- Tools: Class B Tools, OMCS Carrier, Fork Lift, Hand Truck in LVEA

## OMCS Preparation

- Location: LVEA (near HAM6)
- Description: Wipe down structure and suspension
- Person: Jeff L, Jeff B
- Tools: Solvents / Wipes

## OMC Preparation

- Location: LVEA (near HAM6)
- Description: Pull first contact from OMC  
Mirror inspection, DCPD Cap removal  
Diode testing
- Person: Koji A
- Tools: A UHP N2 cylinder with an ionizer gun for FC pulling  
A fiber coupled halogen light source for optics inspection  
A clean diode Can cutter (Keita)  
Diode testing electronics (Koji)

## 2nd day

### OMC glass bench installation

Location: LVEA (near HAM6)

Description: Swap OMC metal bench with the glass bench

Person: Jeff L Jeff B Koji A

Tools: N/A

### OMC cabling

Location: LVEA (near HAM6)

Description: Install eLIGO OMC preamp

Cabling from the glass bench to the suspension structure

Person: Jeff L Jeff B Koji A

Tools: Preamps (Keita) / Brackets (@LHO)

**<<Preamp test to be done in prior>>**

Tools: Spare DB25 / Breakout board / micro D / aLIGO power source

### OMCS adjustments

Location: LVEA (near HAM6)

Description: Adjust mass balance/positions/height and BOSEMS

Person: Jeff L Jeff B Koji A

Tools: Height measurement instrument (Jeff B)

Triple sus balancing weights (Jeff B)

## 3rd day

### OMCS TF measurements

Location: LVEA (near HAM6)  
Description: TF measurements  
Person: Suspension Team  
Tools: Electronics / Cable stand / DB25 Cables

## 4th day

### Spare

## 5th day

### OMC/OMCS installation

Location: LVEA (near HAM6) / HAM6  
Description: Put the OMCS on a lift  
Carry the lift to the chamber side  
Use human power to move the OMCS on the HAM6 table  
Locate the OMCS along with the cookie cutter  
Nail down the clamps on the table  
Person: Jeff L, Koji A, one or two persons from LHO (TBD)  
Tools: Genie lift / Dog Clamps / 12pt fasteners / nitronic60 washers / Cookie cutter  
(Jeff L talk to Betsy B, Jeff K)  
Torque wrench  
HAM6 layout diagram

## Post installation

### HAM6 cabling

Location: HAM6  
Description: Cabling  
Person: TBD  
Tools: DB25 Cables / cable diagram

### OMCS Electronics installation

Location: LVEA (near HAM6)  
Person: Jeff L talk to Betsy B, Jeff K  
Tools: OMCS electronics

### OMCS measurements

Location: HAM6  
Description: TF measurements  
BK hammering / vibration absorbers  
Person: Suspension Team

### OMC ISC Electronics installation

Location: LVEA (near HAM6)  
Person: Koji A talk to Daniel S and Rich A

## 2nd week (Tue-Thu)

### Realtime model installation

Location: Control room  
Description: Install realtime model  
Person: Koji A, Zach K