



# INSTALLATION SPECIFICATION

TITLE

## ETMy In-Situ Cleaning

APPROVALS:	DATE	APPROVALS:	DATE
DRAWN: Doug Cook and Betsy Weaver	9/18/00	CHECKED: Stan Whitcomb	
CHECKED: Stan Whitcomb		CHECKED:	
CHECKED:		DCN NO	APPROVED
CHECKED:			DATE

### 1 SCOPE

This task consists of venting and entering the WBSC 6 chamber to remove visible contamination from the 2k ETMy optic surface and to realign the optic with the PAM screws.

### 2 APPLICABLE DOCUMENTS

Listed below are all of the applicable and referenced documents for this task procedure. This list gives the latest revisions of the documents; within the installation steps..

D000068-A	Access Cable
M980086	Conflat Flange Assembly
M990034-B	Contamination Control Plan
E000116-A	Large Optic Realignment Procedure
M980133-B	Vent Isolatable Volumes
M980101-B	Procedure for Isolatable Volume Pump Down
M980136-A	HAM Chamber Access Door Removal Procedure Note: No procedure currently exists for BSC door removal with the engine hoist; Adapt this procedure in the meantime.
E000065-04	Chamber Entry/Exit Checklist

### 3 PRE-REQUISITES

- 1. A BSC cleanroom must be in place over WBSC6 and operable. A smaller room will be placed only over the door section of BSC 6, as there is no longer a large full chamber cleanroom at the Y-Mid station. A seal will be made between the small room and the door.
- 2. The vacuum equipment purge air system must be operable before starting the task.



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## 4 PREPARATION

All preparation must be in accordance with the Contamination Control Plan (M990034).

- 3. Clean the VEA, particularly the floor; Particulates and dust should be removed by mopping with clean water.  
Clean the BSC chamber (wipe or mop with clean water) from the stiffening ring above the door down, as well as the floor in the vicinity of the chamber well in advance of the opening of the vacuum system.
- 4. Insure that there are no large openings to the exterior or the beam tube enclosure where insects or dust can get into the VEA.
- 5. Transport the following items to the Y-Mid:
  - Appropriate cleanroom garb
  - Gloves
  - In-Chamber Overshoe Covers
  - Foil
  - Ameristat for cleanroom seal
  - Cleanroom Door Covers
  - Flashlight
  - High Intensity Illuminator
  - Lens Tissue Wipes
  - Methanol, Ethanol
  - CO2 gun, bottle, compressor
  - Ionizing gun and N2 bottle
  - Grounding Cable and 1/4-20x1/2" fastener
  - VT 800, 1064 coated Viewport
  - CLASS B Vacuum System
  - Oscilloscope
  - 10Hz Low Pass Filter
  - BNC cables
  - VT 800 1064nm coated viewport, fasteners, gasket, and tools
  - Torque wrench

## 5 TASK STEPS

All tasks must be in accordance with the Contamination Control Plan (M990034)..

- 6. Perform all SUS measurements required prior to vent as described in E000116-A. (Doug)



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- 7. Vent the Y-Mid station volume (per procedure M980133)
- 8. Remove doors.
- 9. Turn up purge air.
- 10. Use the CLASS B Vacuum system to vacuum any particulate matter from the chamber floor.
- 11. Install VT 800 viewport on spool piece for the photocalibrator assy. (Fred and Bill)
- 12. Doug, enter chamber.
- 13. Re-align the ETMy described in E000116. (Doug)
- 14. Clamp the optic with the 8 chamfer stops.
- 15. Install the access cable (D000068) from the kapton cable connector to the optics table. This cable is inserted into the J2 connector in the position adjacent to the Side (S) OSEM connector (see the sketch on page 9 of E000062). Record the position of the table connection of this cable as an "as-built" mark-up for drawing revision.
- 16. Inspect optic.
- 17. Blow the optic with the CO2 gun.
- 18. Blow the optic with the Ionizing gun.
- 19. Inspect optic.
- 20. Drag wipe optic with ethanol only if absolutely, positively, without a doubt, necessary.
- 21. Exit chamber.
- 22. Execute only these relevant chamber exit checks per E000065 as the chamber exposure time is critical during this incursion:
  - 1. Confirm all wiring is secured free of the beam path.
  - 2. Release the chamfer stops. (Note: This is steps 56 and 57 of E000062-C with more detail.)
  - 3. Confirm that the controller is working properly (see T000003).
- 23. Re-install the chamber door per M980132.
- 24. Pump down the BSC chamber volume per M980101
- 25. Make an Elog entry pertaining to the task completed, including any deviations, recorded values, and notes.