
NIRSPEC

UCLA Astrophysics Program

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NIRSPEC Cryomechanics Application Note 01.00 Procedure for Opening Vacuum Enclosure

Note-Parts of this procedure will have to be perfected at the telescope as UCLA does not have the facilities to simulate the telescope crane.

This procedure assumes all internal temperatures are at or near ambient.

C Vent Chamber

The vacuum valve is located at the left/rear corner of the vacuum chamber's lower plate. Open valve relatively slowly. It will take a minute or two to come to atmosphere.

C Release Seal

The vacuum seal is maintained by a bolt pattern around the perimeter of the lower and upper plates. The seal at the upper plate is never disturbed. To release the lower seal remove the 5/16-18 bolts in the sealing flange. (See Figure 1)

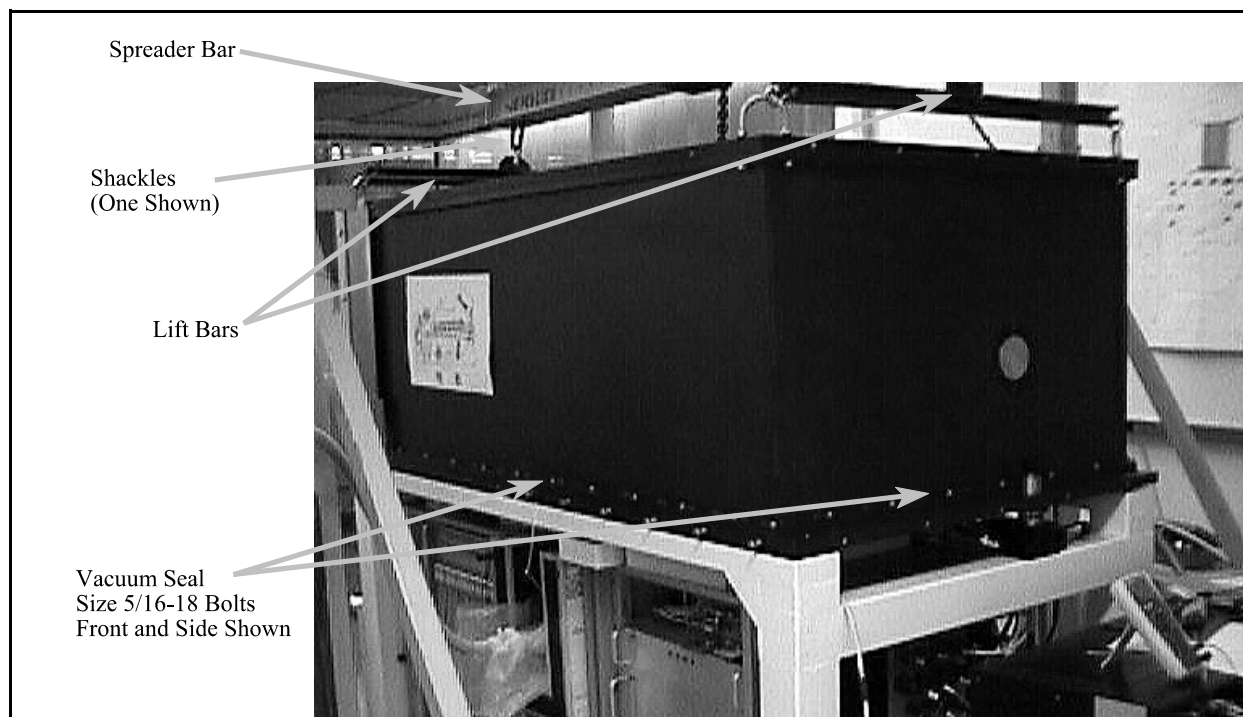


Figure 1; Vacuum Seal Bolt Pattern

- C Attach Crane to Hoist Points
Lower crane with spreader bar (UCLA provided) attached until the bottom surface of the bar is approximately one foot above the vacuum chamber. Attach shackles at both ends of the spreader bar to the lift bars. (See Figure 1)

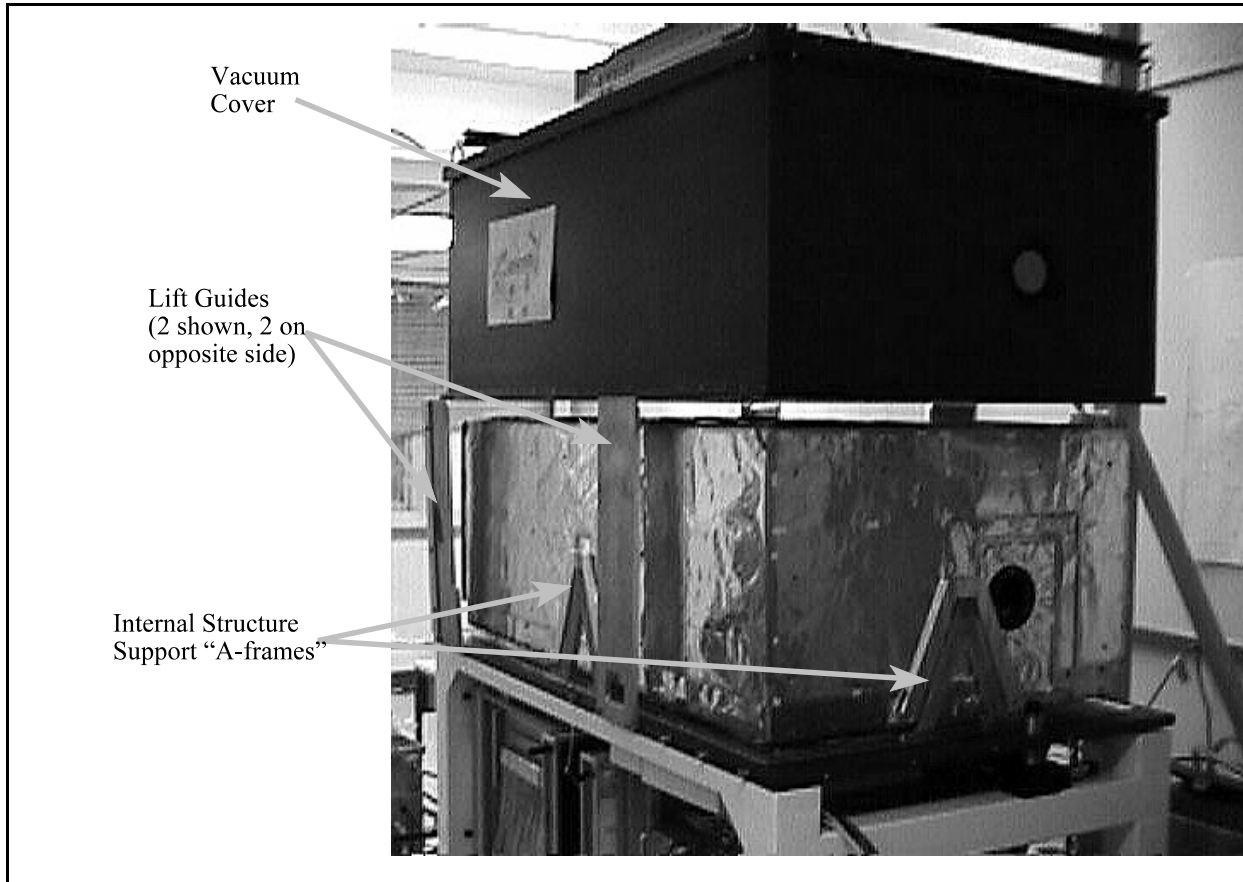


Figure 2; Raising/Lowering Cover

- C Lift Cover (See Figure 2)
(The cover consists of the top five sides of the vacuum chamber)
Slowly (1"/s or slower) raise hoist. A number of people (to be determined) need to watch and insure that the cover raises evenly. Clearances are tightest between the vacuum cover and the "A-frames". Some manual guidance may be required. Raise the cover until it's bottom surface is approximately an inch above the internal cold shield.
- C Lift Cold Shield
With Crane; Attach four shield hoist clips to the bottom four corners of the cover and the top four corners of the cold shield. Remove all bolts that secure the cold

shield to the internal optical structure. Resume hoisting of cover. Manually guide shield so it rises evenly until clear of internal structure and lift guides.

Manually (inside AO): Attach handles to top four corners. Remove all bolts that secure the cold shield to the internal optical structure. Using handles, four (4) people slowly lift the shield with one hand until high enough to get there other

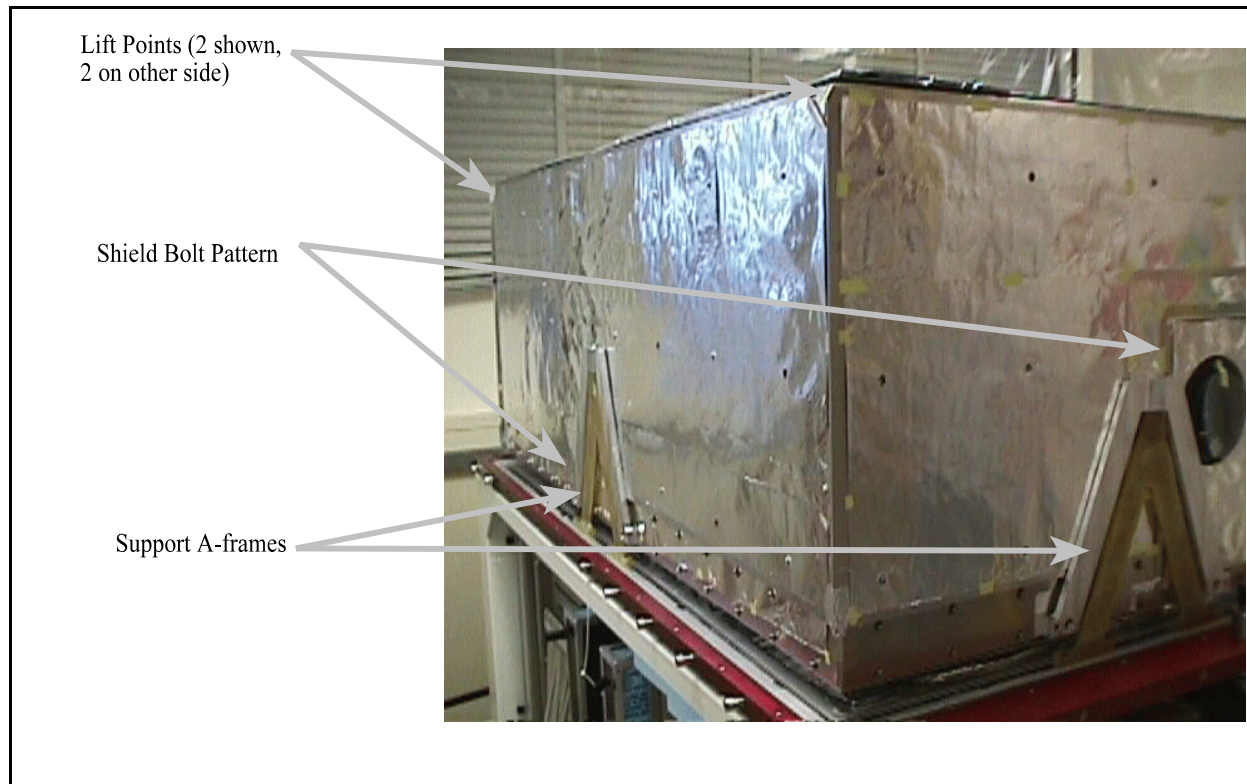


Figure 3; Cold Shield Detail

hand underneath the lower edge of the shield. Continue lifting until shield clears all internal structures and then move it away (or hang by clips in ceiling).

C Secure Instrument

Drive Nirspec into A/O enclosure or other clean area for service

C Store Cover and Cold Shield

The cold shield and cover can be lowered and stored on any suitable and clean surface if it has been removed with the vacuum cover. Lower the cover and shield (if applicable) until the shield is resting on the storage surface. Remove the shield hoist clips. Continue lowering until the cover comes to rest with the shield underneath (inside).