Procedures for mounting MAESTRO on the telescope 2/26/2013

NOTE: After f/5 spectrographic corrector is in, the MAESTRO baffles, chimney baffle, and spacer arcs need to be put on before the spectrograph.

NOTE: 2 of 4 guide pins borrowed from Hecto.

Procedure:
1. Put the derotator at 0 degrees. The instrument will be able to rotate +/- 110 degrees from this position without running into the red Hecto mounts.

2. Attach the black support ring to the derotator, using the 3 center bolts that do not correspond to weldment mounting locations. Leave bolts loose.

3. Put 4 guide pins in to derotator at locations corresponding to main weldment mounting locations.

4. Wheel cart beneath the derotator with the grating end North.

5. Roll to safety stop with wheels.

6. Chuck wheels in place loosely.

7. Raise platform until the weldment is approximately 1 foot below the guide pins.

8. Roughly position the cart to line up the mounting holes.

9. Raise up to about 2 inches below the guide pins, and double check the alignment of the holes. Adjust as necessary.

10. Raise to the tip of the guide pins and double check everything.

11. While leaving the chucks slightly loose on the wheels, tease the platform up until about a 1 inch gap remains.

12. Check holes, and wiggle wheels as necessary. Attach bolts/washers as possible.

13. Continue slow teasing of platform until you reach a height of 34 inches from bottom of platform to the bottom of the platform base. Attach as many bolts as possible.

14. Add small jacks on blocks of wood under each of the cart wheel corners.

15. Raise the cart the last bit with the jacks. It may take some tweaking up and down in order to remove guide pins for replacement with bolts.

16. Try to keep the cart even side to side as raised.

17. Work on tightening bolts in sets from diagonal corners of the instrument.

18. Loosen bolts holding the instrument to the cart, using jack as necessary if they bind.

19. Remove bolts holding cart to instrument.

20. Wiggle cart, to free its movement, and move cart down in 1 inch increments, wiggling as necessary to keep from sticking.

21. Some shifting of people weight on the platform may be necessary to keep movement level on the way down.

22. When clear of the instrument, move down about 1 foot.

23. Chuck north side wheels well, and remove the south end safety support to prevent crushing of c-clamps.

24. Lower platform the rest of the way, balancing weight as necessary to keep even.

Counterweight mounting:
1. Attach the counterweight to the scissor jack with no weights attached.

2. Raise the scissor jack up, aligning to the correct position for the holes.

3. Loosely fasten one bolt in at one end.

4. Pivot the counterweight assembly to get the bolt in on the other side.

5. Insert the remaining bolts and tighten assembly. Do NOT remove scissor jack.

~~6. Mount the grating end turnbuckle hardware to grating end of spectrograph. The "basterdized" block goes on the grey electronics box size of the spectrograph.~~

~~7. Mount the grating end turnbuckle hardware to the derotator ring. The L of the bracket should face away from the derotator center.~~

~~8. Mount the counterweight end turnbuckle hardware to the derotator ring as shown in figure ?????~~

~~9. Initial approximate turnbuckle lengths are as follows: grey electronic box side, 45 inches, black electronic box side, 46 inches center to center.~~

~~10. Mount turnbuckles to the counterweight end so both turnbuckles are in the same orientation for turning. Leave turnbuckles slightly loose.~~

11. Remove the jack.

~~12. Measure the height of the counterweight above the floor.~~

~~13. Crank turnbuckles in compression until each of the back corners are raised .2 inches from their free settle weight.~~

~~14. Add one 68 bound weight to the inside attachment of the counterweight. Add a washer and nut to tighten it in.~~

~~15. Mount the grating end turnbuckles, and crank in tension until tight.~~

Mounting black electronics box, grey electronics box, and guide camera cooler:

1. Raise with platform.

2. Secure in place with 4 bolts.

3. Lower platform.

Mount Science Camera

1.